

Original Correspondence.

THE HARTLEY COLLIERY ACCIDENT.

SIR,—The remarks I made in the Journal of Feb. 15 would appear to have produced the effects intended among the northern colliery owners, or rather those addicted to the one-shaft system, from the private letters I have received—which, by the bye, I should much rather have been addressed to yourself than to me personally. Withholding names, one gentleman writes—"You must be under the impression that all the collieries in the North are single shafted; allow me to tell you that you are very much mistaken, single shafts being the exception to the general rule." This was not my impression, as I know there are a large proportion of collieries worked with two shafts; and I know that the owners of the collieries which are so worked do not regret having sunk two shafts. My correspondent says—"Brattices may be a very heavy expense in some parts of the country, doubtless those you are most familiar with. I have read a letter from another mining engineer, somewhere in the South, who said that it cost somewhere about 1500*l.* a year to keep in repair." This statement was made by the late George Stephenson, C.E., a North Countryman, and not by a southern "M.E."

He further adds—"It does not cost anything like that sum. I have mentioned the above to a gentleman largely connected with collieries, and he says that theirs did not cost 15*l.* for repairs. In all cases where brattices are required the materials and workmanship are good, and not liable to get out of repair." No one will dispute the quality of the materials and workmanship in the brattices, but we must treat the 15*l.* per annum as a mere figure of speech. But as to the infallibility of that system, we must point with the finger at the Hartley shaft, and the churchyard and village of Hartley, as a standing monument of its efficiency, and of the intelligence of those who first introduced it into the northern mining districts, and to the generosity of those who adopt the evil system. The evils of the brattice system are not confined to such disasters as that produced at Hartley; it is attended with others—first, the almost impossibility of keeping them air-tight, which greatly affects the ventilation of the workings; and, second, in cases of explosion, arising from bad ventilation, the brattice, the weakest part, is the first to give way; when the air-courses are destroyed, the current of air ceases, and those who escape the fury of the fire are killed by the carbonic acid gas, while days must elapse even the dead bodies can be recovered, to say nothing of the expense of general repairs. My correspondent, in reference to the cost of sinking these shafts, states that a 12-ft. shaft does not cost from 15*l.* to 20*l.* per yard, as would appear from Mr. Coulson's evidence. He then refers to a single shaft, sunk 100 fms. in seven months. The cost of sinking, we all know, varies with the quality of the ground to be sunk through, and the quantity of water to be contended against. One shaft may cost 6*l.* per yard, another 30*l.*, according to circumstances.

In alluding to the beam, my correspondent states—"I knew the engine at Hartley before the accident occurred. The catch-pins (meaning, I presume, the cross-heads) were in their places at each end of the beam, and things were not in the slovenly condition you describe. That at the pit end was broken by the spring-beams when it came in contact with them in its fall. This was proved at the inquest." Be it as it may, the cross-head must have been a weak affair, and totally inefficient for the purposes intended. With reference to the position of the beam, he states—"It is clearly proved that the beam broke in the up-stroke, or how do you account for the piston-rod being driven into the cross-head with such force as to split it?" If this were the case, the cross-head on the cylinder end of the beam must have been infinitely stronger than that at the pump end, which appears to have offered little or no resistance when the beam broke and fell down the shaft.

Having replied to my correspondent's letter, and pointed out the defects of the one-shaft system, he favoured me with a second letter, which contains matter not generally known to your readers, and, with your permission, I will now record. He states—"From your letter, I feel you entertain an erroneous impression of my meaning in reference to the single-shaft system. You think that I, with others here, have a strong partiality for the single shafts. I beg to state I am strongly opposed to them, as are nearly all I have spoken with on the subject. I say nearly, but I cannot remember one who held an opposite opinion. And yet they are sometimes even 'now sunk, because the owners will not go to the expense of two shafts.' Here, I would add, is an honourable admission of why single shafts are sunk, which can only be characterised as discreditable in the extreme on the part of those who sink these man-traps for their fellow-creatures to work in. With this admission, the duty of Parliament is obvious for the protection of our hardworking colliers."

With reference to the Hartley works he states—"The owners of the Hartley Colliery saw their danger, and were busy in rectifying it. In six months they would have had a second shaft, 1½ mile to the rise. Every colliery should have at least two shafts." In this opinion I heartily concur. Again he says—"You misunderstand me. You speak of single shafts being the rule here, whereas they so far are in the minority. I should add that the instances of single shafts are far too numerous, and it is to be hoped they will each year become less in number."

In the next paragraph my friend modifies his estimate of keeping the brattices in repair. He states—"I never intimated that brattices, as a general rule, will only cost 15*l.* per fm. to keep in repair. The sum that I named was given me by an acquaintance of mine. As an example of one individual case, which I transmitted to you on hearsay evidence, I can hardly conceive a brattice to cost 1500*l.* per annum for repairs, but from the high authority you name we must accept the figures as correct. Enclosed I give you the actual cost per fathom of putting in main brattice in a pit sunk in 1857 in the steam coal field of Northumberland."

Cost of 1 fm. of main brattice, side planks, 12 ft. of run Memel deals, 11 x 3 at 6½d.	0 6 6
Cost of 85 ft. of ditto, 11 x 3 (brattice deals), at 6½d.	2 6 6
Dressing and grooving for sliders, 97 ft. run, at 3½d.	0 6 6
Putting in brattices complete, including fixing side planks by sinkers' contract price.	0 6 0
From sliders, 6¼ length per fathom, at 3 lbs. each=149½ lbs., at 1d.	0 12 6
Completing to side planks, six, at 1 lb. each, at 3d. per lb.	0 1 6
Joiners' time preparing planks at bank.	0 0 7
Total.	£3 19 13½
Total cost of materials per fathom.	£3 6 6
Ditto for labour.	0 12 7½
Add wages 3d. per fathom (shaft 13 ft. diameter).	0 0 3
Making a total per fathom of.	£3 19 43½

I think, Sir, this admission on the part of a practical gentleman of the cost of putting in a brattice, and the additional size of the shaft required for this purpose, fully corroborates my statement, that two 9-ft. shafts, cased with brickwork, would have been sunk at a cheaper rate through the same description of ground. The cost of sinking a 9-ft. shaft through any ordinary ground would be nearly as follows:—

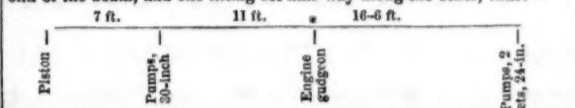
Sinking, per yard.	£1 10 0
Brickwork, materials, and labour.	3 10 0=£5 0 0

But the cost in both cases would be in proportion to the amount of water and the nature of the ground to be sunk through. But when the strata are well known the cost of sinking is less than through unknown ground.

But I must proceed with my friend's letter. He states—"But as to the beam, the spring beams are still in their places, as anyone going to Hartley may see. The catch-pin at the pit end of the beam was of oak, I believe (to within an inch or two), 14 in. diameter. This was screwed to the upper side of the beam by iron straps, bolted on very strongly." Now, when the beam broke (I still maintain it broke at the top of the stroke), where is the catch-pin that would withstand the sudden shock of 20 tons of matter falling from a height of 9 ft., and to be suddenly arrested by the spring-beams? The readers of the *Mining Journal* will recollect that I stated it appeared to me the beam broke when the load was off it; if the beam was at the top of the stroke, it had discharged its load, and had nothing but the weight of the pump-rods on it. With reference to the cross-head being within an inch or two of 14 in. diameter, I do not think such a cross-head was calculated to do this. The spring-beams it appears remain intact, whilst the cross-head, or the iron straps, gave way, which of the two is uncertain. As he states, "There is no doubt but the iron straps, which I well remember were very substantial, gave way, or the catch-pin itself broke. The fact of the piston coming down on the bottom of the cylinder, and forcing the piston-rod into the cross-head, proves this. It is not usual here, or in any other places that I can remember to have seen, to have any other security than what I have named." It is evident from this that the cross-heads were merely placed on each end of the beam, simply for the protection of the cylinder and piston-rod, and not intended as a protection in case the beam should break. From this

admission, the Inspector of Mines in this district has a plain path before him. When these large masses of iron are vibrating over a single shaft, two, if not more, substantial cross-heads should be attached to the pump end of the beam. One is inclined to sympathise with the Government Inspectors: their labours are enormous, and, without doubt, an additional number of Inspectors ought to be at once appointed, if the mines are to be effectively protected.

My friend remarks—"I have heard in one or two instances of chains being used. Malleable iron beams are also being introduced here and in other parts, as, of course, you well know. Before the accident I have been more than once through the district, and have always found the engine at Hartley, large as it was, a pattern of neatness, though I admit it was badly balanced—I mean, two heavy lifting sets were hung at one end of the beam, and one lifting set half-way along the other, thus:—



In my letter I stated there could not be the least doubt but that the strain on the beam was equivalent to its breaking weight, for in addition to the strain of the pumps, there were 14 iron wedges forced in to secure the beam to the gudgeon. The power exerted by these wedges must have been enormous, and, to my mind, the sole cause of the disaster. Cast-iron beams, if cast in two parts, may be made perfectly safe, as follows:—If the space between the two sides were filled in with a timber lining, and to this the two sides of the beam firmly screwed, if the cast-iron portion broke, the woodwork would prevent the beam from falling. This plan would render the cast as safe as a wrought-iron one, and infinitely cheaper.

In conclusion, I beg to state an accident like that at Hartley could never occur in the Shropshire district. In opening a colliery, if it is troubled with water, a shaft is sunk in the deep of the mine for the exclusive use of the pumping-engine. The working shafts are sunk about 50 or 60 ft. apart, which we term a pair of shafts. One engine draws the coals from the two shafts. In the sinking, a small drift way is driven from one shaft to the other for ventilation. As the works proceed these drift ways are filled up again. When the coal is reached a current of air for ventilation is at command. The coals and other minerals are worked on the long wall system: this is the only system that admits of first-rate ventilation. A current of air passes through the whole of the workings. The gate-roads are the air-courses, consequently not liable to get out of order.

The cost of getting the coal is, on an average, as follows:—	
6-ft. coal.	2s. 3d. per ton.
8-ft. coal.	2s. 0d. "
4-ft. coal.	2s. 6d. "
3-ft. coal.	3s. 0d. per ton.
1-ft. 6 in.	5s. to 6s. "

Delivered at the furnaces, canal, or railway for sale. The proprietors find the engine and pit gear, and rails for under and above ground; the chartermasters find all tools, horses, &c. In point of economy I do not think our northern friends can approach us with their stall and pillar system.

One word more. Mr. G. Walcott, C.E., has proposed what he calls "Harbours of Refuge" in the pits. Permit me to tell that gentleman his suggestion is all "nonsense." A second shaft, with plenty of air for ventilation, is all that is required. The collier can then take refuge by his own fireside, and smoke his pipe in peace and safety. I fear I must say the same of Mr. Colwell's bottle-of-smoke proposal: a good system of ventilation, with a barometer daily consulted, would give ample warning of danger on all occasions.

G. SHEPHERD, C. & M.E.
26, Throgmorton-street, E.C., March 6.

VENTILATION OF COAL MINES.

SIR,—In the Journal of Dec. 21 "M.E." desired me to answer certain questions respecting my invention for exhausting fire-damp from coal mines. I replied to the queries in the following week. Now, will "M.E." oblige me by giving his opinion on them through the Journal, as promised? Blaenavon Gas and Water-works, Pontypool. J. G. WILLIAMS.

COMPENSATION FUND.

SIR,—Soon after the dreadful colliery accident at Risa, a long letter of mine appeared in the Journal, suggesting a plan for instituting a "Benevolent Fund," for affording instant and ample pecuniary medical or surgical relief to the sufferers from that and similar—indeed, all kinds of accidents in coal and other mines; the proposition, however, failed at the time referred to in arousing the public, or any individual mind, to the great and peculiar benefits that would have flowed from its general, or even partial, adoption. But since the lamentable Hartley and Gethin Pit (Merthyr) accidents have occurred, numerous suggestions have appeared in your excellent Journal, and also in other public prints, advocating the principles upon which the "Benevolent Fund" above referred to was proposed to be instituted, which were as follows:—That a short Act of Parliament be passed (or individual coal proprietors, ironmasters, and their workmen may voluntarily agree) to levy a contribution of 1½d. per ton of coal raised (the masters 1d. and the workmen ½d. per ton), which upon the 84 millions of tons now annually brought to the surface would amount to 525,000*l.*

Here would be a "fund" adequate and instantly available to meet all possible accidents in every coal pit in the United Kingdom, and that at once, without waiting for the too often tardy aid of voluntary subscriptions. It was also proposed that the "Benevolent Fund" should form the nucleus of a "General Life and Accident Insurance Fund," for the benefit of workmen of all kinds, and likewise a "Medical and Surgical Fund," for affording, on easy terms, adequate relief in all cases of accident or illness, both to males and females, including all necessary supplies of nourishment, so often included in the recommendations of doctors to their poor patients, but so seldom sent from either the surgery or dispensary.

Mr. Jos. Goodwin, in last week's Journal, says he agrees with "A Pitman" that the coal mines of this country can never be worked without accidents occurring. Mr. Handel Cossam also, in the same Journal, and on the same subject, says—"Do what we may, accidents still would occur," and many able colliery viewers and Government Inspectors are of the same opinion. Now, under these uncontrollable circumstances, it is the exclusive and high prerogative of civilised men to adequately provide against the consequences of such calamities, and not let them come upon us like a "thief in the night," as it were, and find us sleeping and dreaming. We are expressly admonished at the very beginning of things to "subdue and replenish the earth," and all that it contains; and the entire physical, if not the moral, elements of Nature are placed in our hands to fully enable us to effectively do so. Let not those dreadful casualties above alluded to, therefore, come upon us like a thunderbolt on unguarded and unprotected nature, but make due provision for the unforeseen and inevitable accidents attending not only mining pursuits, but all others of the necessary and desirable avocations of an active and industrious life, identical with a state of rational Christian civilisation.

S. B. ROGERS.
Newport, Mon., March 4.

SIMPLE DRAWING MACHINERY.

SIR,—In reply to your correspondent, I beg to state that the plan I propose to adopt for drawing is as follows—On the top of an incline plane are to be fixed some strong framework, and on which is to be fixed a machine, consisting of a strong wrought-iron shaft, on which are to be three drums and a break-wheel. The centre drum to be for the winding chain; one of the side drums for the chain of the truck and water-box for drawing up the kibble; the other drum is for the chain of a balance to work on. The incline plane to be made with two sets of rails—one pair will work the large truck and water-box, and the other will work a small truck, made of the lightest materials, and will act as a balance, as follows:—When the kibble is at the surface the large truck will be at the bottom, and the small balance truck at the top of the incline. Turn a sufficient quantity of water into the small balance to start the large truck from the bottom and send the kibble down. When this balance gets down to a certain point of the incline it will discharge its water, and when it gets half way down—that is, the length of its chain—it will begin to ascend, and get at the top of the incline with the other truck; the kibble will then be at the bottom. Then turn some water in each truck, sufficient to start the kibble from the bottom, the two trucks will descend together; when they get to the point stated above the small one will discharge its water, and when it gets to the length of its chain it will begin to ascend, and act as a balance to the descending truck and get to the top when the kibble gets up, and so be in readiness to send the kibble down again: the whole to be governed by a break worked by a worm-screw. In mines where there are two or more

shafts they might be made available for balances, whereby the ascending and descending of the kibble might be conducted with more regularity. But as your numerous readers, and, I have no doubt, your correspondents are aware that a great many of our metallic mines (and especially your mines) have only one shaft and no adit, a small stream of water might be made available for drawing purposes on the above plan, when it would be sufficient to work a wheel for the same purpose. I beg to inform your correspondent that I have never seen any water-balances at work, or of any being in existence, before I saw his letter in the Journal, having seen incline planes at work for the purpose of sending stones and other things down from the top of a hill, where the full trucks pull up the engines. Taking my ideas from this, I thought that an incline plane might be constructed for drawing stuff from mines, where water could be got to the motive power.—Newcastle-Emlyn, March 3.

R. SAKKALA.

MANUFACTURE OF PEAT.

SIR,—Can any of your correspondents inform me what progress Mr. Buckland is making in developing his discovery of a cheap method of treating peat, so as to render it dense and applicable to the ordinary purposes for which coal is now used? The importance of such a discovery is so great, that I am surprised it has not made more stir in the scientific world than it has, and I believe that it only requires the inventor to secure himself the co-operation of at least everyone in Ireland. Having been shown some specimens of peat condensed by his process, I have no hesitation in pronouncing the quality and density to be all that can be required; and, if it could be sold at (say) 10s. to 12s. per ton, it would be an enormous demand, and would, I think, materially aid the development of the metalliferous resources of Ireland.

As a shareholder in the old Irish Peat Company, I know that in the neighbourhood of Athy there is a deposit of ore which, with peat, makes iron equal to the finest brands of Sweden, samples of the product being exhibited at one or two meetings of the company in London. If Mr. Buckland's process could be carried out cheaply on the bogs of this district, I have no hesitation in saying that Irish charcoal iron would become well known to the market, and would command a high price. If there was ever the intention, as I hear there was, of forming a great public company for working Mr. Buckland's patents, why is not the present opportunity of bringing the project prominently before the public availed of? Capitalists are looking round for a favourable investment, and I really think that with earnest judgment the manufacture of peat would offer all they could wish.

HIBERNICAL.

THE CAPULA SILVER MINING COMPANY.

SIR,—The correspondent who, under the signature of a "Looker-on," has written about this company, and animadverts upon the calculations of the prospectus, also makes some general remarks on the mines and people of Mexico. Of the latter, he says, "they are some of the most debased people on the face of the earth;" and he alludes to their "brutal and vicious habits." It is very true that Mexico has, owing to a long period of misgovernment, as well under the Spanish rule as under the republican leaders, become disorganised, and brought by contending factions into a state of anarchy; but it appears to me very unjust to condemn a whole people on such grounds: and I contend, from some personal experience of the country and the people, that, as a body, they are not more vicious or ill-disposed than the people of any other nation on the face of the earth. On the contrary, a very large proportion of the working population are remarkably docile and, I may add, intelligent. I have seen labourers submit to treatment which no English labourer would have borne in his country. I have travelled in the wildest parts of Mexico with "mosses" who could not be surpassed for their honesty and patient endurance. The "arrieros" were and are trusted with the most valuable goods, without any security but their own character for integrity. Robbers there have always been, as there were highwaymen once upon a time on Blackheath and Finchley Common; but all England was not condemned for the deeds of a few. There are the elements of good in the Mexican people. Let the rulers, whoever they may be, grant toleration in religion, toleration in the holding of lands, and freedom of action in the various branches of industry, and in a few years you would find robberies and murders less frequent, and the people contented and happy, because it really does not require much to make them so.

Your correspondent is right in describing Mexico as a glorious region, and he is also correct in stating that the profits of some of the mines are immense; the Rosario Mine, which he mentions, being one of the most recent prizes in Mexican mining. But, without accusing of inconsistency one who does not write in a bad temper, it is not very easy to understand why he should cavil at, or question the probability of, the correctness of the calculation put forth in the Capula prospectus. He tells us that the profits from Rosario amount to 300,000*l.* per year. The silver returns in each year amounts, in fact, to about 3,500,000*l.* Yet that mine operates with a less favourable prospect of success than the Capula, and the outlay upon it was very small. The returns from a mine are not, then, to be measured by the capital expended upon it—that is, in the ordinary sense in which we look at capital laid out in a manufacturing business. Your correspondent may, however, agree with me in this; and I will, therefore, briefly notice his two main objections to the prospectus. As first, as to the calculation, he asks who made it? I think the answer to the prospectus itself. There are five directors, there are brokers, and there is the secretary, and they are responsible for the prospectus which they have issued, even if they individually could say that they did not make the calculation. The calculation is, that after certain work has been done the mine will be capable of yielding 150 tons of ore per week, of an average of 54 ozs. of silver per ton; and this 54 is reduced to 43 in the process of "beneficio." All I can say is, that the quantity and the value appear to me very moderate, and the estimate seems perfectly justified by the description and plan of the mine. Mr. Chynoweth, one of the directors, a gentleman of integrity and business-like habits, with a thorough knowledge of the whole matter, is able to estimate the cost of raising and reduction—the former is likely to be small, because of the deep adit level.

I am one of those who think that calculations of profit are much better left out of a mining prospectus, but it appears that the public like to have some idea of what is to be expected in the shape of returns. It is not, I think, pretended that the profit is to be obtained at once, or even in a very short time; the words of the prospectus are "before any result can be obtained it will be necessary to erect a reduction establishment." How long that may be in hand is not stated, but a year or two must elapse before the work of reduction can commence; meanwhile the mining trials may proceed. As regards the nature and quality of the ore, notwithstanding your correspondent's doubt, I say that the samples I have seen present as pure a "pinta," and are as favourable in their nature, as any other silver ore in Mexico. Your correspondent questions the sanity of a man who could give up two-thirds of a concern which promises such results, and he carries out "mind's eye" to Cornwall. But nobody thinks of questioning the sanity of the lord of a Cornish mine who grants his mine, or renews the lease, at a royalty of 1-18th, even when the mine is in a most productive state. The case of the Capula is this—Mr. Chester, whose character I honour I have never heard doubted, prosecuted the working of the adit for several years, and expended 10,000*l.* He communicated the adit with a shaft, and cut several veins productive of silver ore. But war cannot be carried on without money, neither can a productive mine be made available without the means of extracting its riches. The means are not at hand; negotiations commence, and the result is the Capula Mining Company (limited). Every reader of the prospectus must, moreover, be struck with the somewhat unusual proof of the owner's confidence in his mine, inasmuch that he asks for nothing until the company has been repaid the whole of its outlay. Your correspondent remarks as to the supply of water being insufficient for a reduction works. My own knowledge of the district, and the information derived from others, induce me to believe that his fears in this respect are groundless. Mexico may yet become one of the finest countries in the world, without turning the Mexicans out of it; but it will not be by allowing the Spaniards to regain possession. I venture to predict that the time will come when not only the Capula, but many other English companies, will be working mines in Mexico, and with very different results to those which caused the ruin of the great companies of former days. The only one of those old companies now existing is the United Mexican, and perseverance has in that instance led to prosperity, as their mine of Jesus Maria is now yielding a profit of upwards of 40,000*l.* per annum. In the district which lies between the rich mine of Rosario in Pachuca, and the mine of Capula, there is a range of hills covered with the finest timber, and crossed by mineral veins of the greatest promise. There is the rich mine of Arevalo, and others of less note, and altogether

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Sir,—All acquainted with the lead mines now working in Flintsham must know that nearly the whole of them are surrounded by, or near, workings. Those old mines have been abandoned, some fifty, others about one hundred years. The old levels and workings are either run together or filled with water; therefore it is impossible for anyone to know their extent. Sometimes, when we think we have 20 fms. to drive, we have driven many inches before we have cut into the old workings. This was the case at the Gwilt Mine, where the sixteen poor men lost their lives. The shallow level Bryn Gwilt extended many fathoms further west, that is, towards the old workings than the deeper level, which was driven into the water, and which caused the accident. The level being quite dry, there was not the least indication they were getting near water. There is nothing to be laid to the charge of the agent, or the unfortunate miners who lost their lives. To-day the inquest commences, and I feel confident the verdict will be very different from that of the gentleman who gave his last week. Mr. Gobie and I are both in coincidence with him who is making of the agent's say, "dead or alive, such mortal." &c. Such comments are altogether uncalled for. Every person acquainted with Capt. Evans knows him to be a most respectable man and one who has had considerable experience as a mine agent, and I have every reason to believe he values human life as much as the celebrated gold scribe. I should judge Gobie to be an advocate of Lynch law, after telling us he has travelled in those countries where such law existed. Mr. Gobie is certainly one of these gentlemen who have no organ of sight, and rightly so, as they are, and like to see the world as it is, and not as it is of his doing; and saying, "I am in Australia," I was in Victoria. I am in this time he speaks of, though I never heard of him; but I did see a number of men at diggings, who might be called the gleaners. These men would not go below the surface, but would wash the waste after the crop, or sheaves, had been carried away, and about one-fourth as much as those who properly worked. These gleaners were the boosters, and at all times knew where there was plenty of gold, but could not find

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Meetings of Mining Companies.

WHEEL GRYLLS MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Adam's-court, Old Broad-street, on Thursday.—Mr. PETER WATSON in the chair.

Mr. DUNFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.

The accounts for the six months ending December showed—

Balance last audit	£ 167 5 7
Call	1024 0 0
Tin sold	4743 19 1
Copper ore sold	23 13 2 = £5948 17 10
Mine cost	£2410 0 3
Merchants' bills	958 6 1
Dues	253 13 6
Machinery	730 0 0
Incidental expenses	0 6 0
Discount	39 8 0 = 5391 13 9

Leaving credit balance £ 587 4 1

The balance of cash at bankers was £1887.

The report of the agents was read, as follows:—

March 4.—We beg to hand you our report, which we have prepared for the meeting showing the work accomplished during the last six months, and the present prospects of the mine.—Fisher's Lode: Annie's shaft has been sunk 8 fms. 3 ft. to the level in the shaft is worth 55s. per fm.; sinking by nine men, at 18s. per fm. We expect by the end of this month to get this shaft down for a 30 fm. level, and from the appearance of the lode in the shaft we shall have a rich level at that depth. The 20 has been driven on the course of the lode 120 fms., nearly all of which has been productive ground, and now working at an average tribute of 6s. in 11. The lode in the end east at the present time is worth 5s. per fm.; driving by six men, at 3s. per fm.; in the end west, worth 3s. per fm.; driving by two men, at 30s. per fm. The 10 has also been driven 33 fms., and several winzes sunk from the 10 to the 20, all through a good lode, the ground is now available, and will be taken away at a good profit. At the adit level we have driven on a side branch 35 fms., and opened some good tribute ground.—Standard Lode: At this part of our operations we have not extended any distance on the course of the lode, but have driven about 10 fms. in cross-cut; by so doing we have interested several bunches of tin; those places are now working by tributaries, at a price varying from 6s. 8d. to 12s. in 11.—Georgia Lode: The engine-shaft has been enlarged, timbered, cased, and divided from surface to the adit level. The adit, or 40 fm. level, is driven 7 fms.; 4 fms. of this has been through disordered ground, but we are glad to say within the last 3 fms. we have got through the influence of the cross lode, and cut a rich bunch of tin. The lode in the end at this time is worth 30s. per fm.; this is an important feature, as the ground here is white from this place to surface, and from present appearance this is another rich bunch of tin, similar to the one already passed through near the engine-shaft. At surface, the steam-stamp engine-house has been built, a 32-in. cylinder engine erected, with a 10-in. boiler, and 12 heads of stamps set to work, and in about ten days' time we shall connect another 12 heads, making together 24 heads. The engine works admirably well, and is giving great satisfaction. Also fixed launders, about 150 fms. in length, from the pumping-engine to the stamps, made a large reservoir, and laid down a certain part of the dressing-floors; this work has entailed an extra expense, as follows:—Sept., labour and merchants' bills, 1677, 1s. 1d.; Oct., ditto, 3937, 4s. 4d.; Nov., ditto, 3234, 15s. 9d.; Dec., ditto, 2877, 13s. 8d.; purchase of steam-engine and 24 heads of stamps, 7300, 1000l. In addition to this extra expense at surface, there has also been an outlay of 1600l. in enlarging the engine-shaft, and in the men put to sink below the adit. In conclusion, we would remark that our mine is in good working order; and, viewing the prospect before us, we have no hesitation in saying that when the calciner is got to work, and all the heads in full play, we shall sample tin monthly, and make regular profits. We have 51 men employed on tutwork, and 65 on tribute.—E. ROGERS, J. POPE.

The CHAIRMAN said he had great pleasure in moving the adoption of the report and accounts, for he thought shareholders would agree with him that there was good cause for congratulation. It would be seen by the cost-sheets for Sept., Oct., Nov., and Dec. that there had been charged during that period for buildings and merchants' bills the sum of 1171l., and also 7300l. for a 32-in. cylinder engine, and 1600l. for cutting down Georgia shaft. The balance in hand at the last meeting amounted to 1677, 1s. 1d., and there had been paid upon the call made 1024, so that at the end of Dec. there was a balance in hand of 5702l. During the six months ending Dec. the tinstuff realised 4743l., and the copper ore 231. Had the tinstuff sold during the past year been stamped and sent to the smelting-house as black tin, instead of having realised 5347l. it would in all probability have brought about 10,000l. The adit level, 40 fms. from surface, had been extended for about 250 fms. on Fisher's lode, through productive and profitable tin ground, and which extended nearly up to surface. About 18 months since it was found that this and other lodes were very rich. A pumping-engine was purchased and erected upon Annie's shaft, and flat-roads were carried down to the flat-road shaft, which, with the pitwork, the casing and dividing the shaft, timberwork, &c., incurred an expenditure of about 2000l. Since then (Grylls), or the eastern, shaft has been sunk from adit to the 10, and the men put to sink below the adit, and in very easy ground. The flat-road shaft had been sunk from adit to the 20; Annie's engine-shaft had been sunk 9 fathoms below the 20; and Fisher's, or the western, shaft had been sunk 10 fms. below adit. A 10 fathom level, communicating with each and all of those shafts, had been driven for about 220 fms. through profitable tin ground, and was now available for being worked upon tribute with profit to the shareholders. Six winzes had been sunk from adit to the 10, for the more efficient and economical development of the ground. The 20 had been extended about 25 fms. east of flat-road shaft, and west 55 fms., and a communication made with the 20 driving east of Annie's shaft, and the level had been extended about 12 fms. Three winzes had been sunk from the 10 to the 20. This all went to prove the easy nature of the ground, and the vigorous prosecution carried on to lay open good reserves of tin ground, available for the steam-stamps. On the Standard lode a shaft was sunk to adit, and three levels driven a great distance east and west in profitable ground, where there were several pitches. Finding the rich bunch of tin in Georgia shaft to increase both in quality and quantity, also to lengthen as the depth was increased, upon driving it was found to be absolutely necessary to increase the size of the shaft, which cost something like 2000l. Driving had been resumed north, where there was a rich lode, worth 30s. per fathom. The end was all in white ground to surface, and if it continued it was a most important point to keep in view. The 32-in. cylinder steam-stamp engine, with 24 heads of stamps attached, would be set to work in the course of a few days, 12 of them having commenced operations on the 10th ult., and a new calciner and house would be forthwith erected, which, with a further outlay for dressing-floors, would cost about 1000l. When that was accomplished, which would be in about two or three months, he had no doubt but that good and lasting profits would be given to the shareholders.

Mr. RICH enquired if there was any reason to expect that the labour cost would be reduced?—The CHAIRMAN replied that the labour cost would, in all probability, be increased, but now that the erections had been completed, the merchants' bills, no doubt, would be considerably decreased.

Mr. E. COOKE said he was present at the starting of the stamping-engine, when he availed himself of the opportunity of looking over the extensive set, and it afforded him much pleasure to witness the quantity of tinstuff at surface ready for the stamps. Previous to visiting the mine, although he had the fullest confidence in the reports of the agents, he had not the slightest conception that Wheel Grylls was of such value or extent. He thought there was good reason to hope that the committee, at the next meeting, would have the pleasing duty of recommending the declaration of a good dividend. From the considerable quantity of tin ground already laid open, he had no doubt but that Wheel Grylls would become a permanent dividend-paying property.

A SHAREHOLDER: Leaving out the expenses for engine, &c., what would have been the profit for the last six months?—The CHAIRMAN replied about 1500l.

The reports and accounts were then unanimously adopted, and the committee of management re-elected, with thanks for past services.

A vote of thanks to the Chairman terminated the proceedings.

WHEEL MOYLE MINING COMPANY.

A general meeting of proprietors was held at the company's offices, Adam's-court, Old Broad-street, on Thursday.—Mr. DUNFORD in the chair.

The notice convening the meeting having been read, the minutes of the last were read and confirmed. A statement of accounts for the three months ending Jan. showed:—

Balance last audit	£1193 1 5
Mine cost	1853 5 6
Merchants' bills	890 15 10
Royalty	90 5 2
Interest	3 5 2
Incidental expenses	0 4 6 = £4030 15 8

Call £1200 0 0

Tin sold 1513 7 2

Copper ore sold 292 1 2

Sundries 62 10 3 = 3067 19 6

Leaving debit balance £ 962 16 2

The reports of the agents, R. P. Goldworthy and G. Johns, was read, as follows:—

March 4.—Agreeably with your request we beg to forward the following as our report of this mine:—We have two men and two boys cross-cutting south at the 30, at 5s. per fathom, towards the south lode, and hope to cut the lode in a few days. We are cutting the plat at the 30, by four men and two boys, at 10s. per contract; when we have completed the plat we shall commence to sink below the 30. We are driving the 20 east, of the engine-shaft on the north lode, by one man and one boy, at 3s. 15s.; the lode is 1 ft. wide, producing stamping work for tin. We are driving the 20 east, on the south lode, by three men and three boys, at 3s. 15s.; the lode is 3 ft. wide, and is worth 8s. per fm. We have two men on tribute in the back of the 20, on the north lode, at 10s. in 11, at 50s. per ton for the tin. We are driving the 20 east, on the south lode, by two men and two boys, at 4s.; the lode is 2 ft. wide, and is worth 5s. per fm. We have sixteen men stoping in the back of the 20, on the south lode, at an average price of 2s. 6s.; the lode is worth 7s. per fm. We are sinking a winze below the 12 east, on the north lode, by four men, at 4s.; the lode is 1½ ft. wide, and is worth 3s. per fm. We hope to communicate with a hole to the 20 in a few days, when we shall open up ground which will pay to work on tribute. We are stoping the back of the 12 east, on the north lode, by four men, at 3s. 2s.; the lode is 1½ ft. wide, and is worth 4s. per fm. We are stoping the back of the 12, on the south lode, by ten men, at 2s. 7s. 6d.; the lode is 3 ft. wide, and is worth 7s. per fm. We would refer you to our report sent last week, and would still express our opinion that when we get our method of dressing fairly into operation, the result will be favourable; and we would again say that in depth we believe that this mine will become an important and a profitable one.

The CHAIRMAN said that everyone was much disappointed at finding upon the present occasion, a debit balance; at the same time, there was not the slightest reason for being disheartened. All experience proved that mining, and especially tin mining, was a slow process, and that results sometimes were not so readily realised as indications led them to suppose. He had not the slightest doubt but that a further prosecution would lead to satisfactory results. During the period over which the present statement of accounts extended there had been sold 18000l. worth of ore, and that under considerable disadvantage. The mine was situated in the best district, and he could not help feeling very sanguine that at their next meeting the agent would be in a position to report a very different aspect of affairs. It had, perhaps, been observed that the report just read was signed by another agent, Capt. Goldworthy, whose opinion of the mine he (the Chairman) had understood was of a much more favourable character than that expressed in the report. He concluded by moving a resolution to the effect that the report be received and adopted, and the accounts passed and allowed.

Mr. E. COOKE enquired to what date the accounts were made up?—The CHAIRMAN re-

plied that the statement of accounts just presented included the January cost; and he had been assured that the outstanding liabilities at that date did not exceed 10s. There was a sampling to-day of a parcel of copper ore, which would produce something like 120s. But as it had not been sold it was not credited in the present accounts, although the cost of raising it had been defrayed.

Mr. E. COOKE said he had been so closely identified with the mine that he could not allow the resolution to pass without making a few remarks. He fully endorsed the opinion of the Chairman, that although they were temporarily disappointed there was not the slightest reason to be disheartened, for he counselled himself with the prospect that in three months hence they would meet each other under much more favourable circumstances. He could hardly suppose that in such a district, when from a small piece of ground at a shallow depth they had raised since the last meeting 18000l. worth of ore, they would not find something very much better at the deeper levels. The cutting of the north and south lodes was a feature of great importance; and when they recollected what the neighbouring mines had done, and were still doing, there was reason for great encouragement. As regarded their new manager, he had had an opportunity of conversing with him, and he believed his system of working would effect a considerable saving. He had had the mine inspected by several agents—among others, by Capt. Toulton, of Dolcoath, who gave a most favourable report of the property, and Capt. Dave, of Carn Brea, whose report was also of an encouraging character.

Mr. PETER WATSON had visited the mine some three or four weeks since, and was very favourably impressed with the enquiries he then instituted. The property was surrounded by rich mines. For instance, Ting Tang, the Consolidated Mines, St. Day United, Old Wheel Jewell, Wheel Clifford, and the United Mines. When upon the floors at Wheel Moyle he had been struck with the precise similarity of its ore with that at Wheel Clifford. There was no question in his own mind that it was the same lode. It was true Wheel Clifford was a great deal deeper, but Wheel Moyle was in the valley, whereas Wheel Clifford was upon the hill. From the indications, he should strongly opine that the shaft be sunk with vigour, for the mine had the same character of the same cross-courses, and the same nature of ground as in the rich mines of the district.

Mr. PALMER said, as it appeared the whole of the details had not been altogether managed as they ought to have been, and as there seemed to be presented prospects of an encouraging character, he could not see there was any room for being disheartened.

Mr. GREENWOOD (the local pursuer) said he believed the agent they were about to appoint would be found efficient, and quite equal to the responsibilities of such an office. He (Mr. Greenwood), from knowing the mine well, was satisfied that if they made a small call upon the present occasion it would be the last the shareholders would be called upon to pay.

Mr. E. MICHAEL said they had been calculating upon finding whole ground in the 20, but they found it had been taken away by the former workers. They were, however, coming into whole ground, the development of which, he believed, would produce profit.

The report and accounts were then adopted, and a call of 3s. per share was made. The CHAIRMAN said, the next question was the appointment of a new agent. It was proposed to appoint Capt. Goldworthy to that office, with the special provision that he was not in any way to be dictated to by any shareholder, however large his interest. He begged to propose that Capt. Goldworthy be appointed agent at the mine, at a salary of nine guineas per month.

Mr. R. MICHAEL said he had taken the opinion of the best agents, upon whose authority he was relying, and believing Wheel Moyle would prove to be a valuable property. The best evidence that he could adduce of the opinion entertained of the mine in the district in which it was situated, was the fact that one-third of the shares were held by persons residing within a mile of the property.

Messrs. J. B. Palmer, R. Michael, and E. Cooke having been appointed the committee of management, a vote of thanks to the Chairman was passed, which terminated the proceedings.

GREAT BARRIER LAND, HARBOUR, AND MINING CO.

An extraordinary general meeting of shareholders was held at the offices of the company, Bishopgate-street Within, on Tuesday.—Mr. P. WRIGHT in the chair.

Mr. J. H. MUNCHAUX (the secretary) having read the advertisement convening the meeting, submitted the following report:—

Your directors would remind you of the following remarks in their report to the ordinary general meeting in May last:—"The explorations made, while they hold out considerable hope of success, if the mine can be worked on a large scale, do not in their opinion justify your directors in making any further outlay thereon, out of a very limited capital which they have at their disposal, and which they conceive can be more judiciously expended on the improvement of the estate generally. Mr. Heale has anticipated your directors' decision by temporarily suspending the exploratory works at the mine, and confining the operations there to surface work. He has promised a report from one or more competent and independent mining captains, which your directors expect by the next mail, when they hope to be able to propose a scheme for the future working of the mine which, if carried into effect, will be to the advantage of this company and the shareholders." The reports then alluded to were duly received, and printed copies of them sent to all the shareholders, and your directors have now called you together to consider, and to confirm if you approve of it, a proposal to transfer the mine to another company, on terms which your directors are of opinion ought to be carried out. The amount of capital of this company not called up is only 10s. per share (4000l.), and a considerable portion (if not the whole) of this would be required to complete the erection of the saw mill, and to improve the farms, &c. It is clear, therefore, that this company had no available funds for properly developing the mine, and the proposal is to transfer it with the plant and machinery thereon, and about 300 acres of land, for the sum of 15,000l. (5000l. in cash, and 10,000l. in paid-up shares), and a royalty of 1-20th, to a new company, to be called the Otis Copper Mining Company (Limited), provided the same is completed within six months. By these means the Great Barrier Company would get a considerable sum to improve its extensive property without calling on the shareholders, and it would still retain a large interest in the mine in paid-up shares, and also receive a royalty on all ore raised. The draft agreement will be laid before you for confirmation. Your directors would take this opportunity of informing you that all the machinery for the saw mill, and to improve the farms, &c., is clear, and that the company had no available funds for properly developing the mine, and the proposal is to transfer it with the plant and machinery thereon, and about 300 acres of land, for the sum of 15,000l. (5000l. in cash, and 10,000l. in paid-up shares), and a royalty of 1-20th, to a new company, to be called the Otis Copper Mining Company (Limited), provided the same is completed within six months. 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ACCIDENTS IN COLLIERIES.—Prof. Pepper illustrates the working of the collar, and the incident dangers, in a very interesting lecture at the Polytechnic Institute. Prof. Pepper introduces models and disallowing views, to explain as clearly possible the operation from the bank, through the pit, to the heaver, explaining various sources of accidents, with allusions to the late calamities.

STEAM FIRE-ENGINE.—A steam fire-engine, manufactured by Messrs. Lee and Larnard, of the Novelty Ironworks, New York, has been added to Mr. Frederic Rodger's extensive fire-extinguishing apparatus, and now remains at the service of the public to contend (if need be) with the Fire King, and wrench his doubtful authority from his grasp.

The new engine has, since its arrival, been several times under steam, and performed some astonishing work. We are informed that a public trial of its capitalities will shortly take place under the direction of Mr. Charles B. King, a gentleman known in fire matters.

A locomotive of great speed, with four cylinders (a new invention), another engine for ascending steep inclines and for very sharp curves, will be sent to the Exhibition by the machine manufactory of the Western Railway Company, a French

CHARLOTTE UNITED.—W. H. Hawken, March 1: Since I wrote last the 80 has materially improved; the lode is at present about 1½ ft. wide, and will turn out 1 ton of ore per fathom of high price. The lode in the rise in back of the 40, on the new south lode, is looking well—about 1½ ft. wide, worth 7½ per fm.; from present appearances we expect good returns from this lode; the indications are very good; the water and south walls of the lode are covered with greens, which evidently shows the north is strongly mineralised, and gives us some reason to think of one near at hand. The King's lode is still opening well; lode about 18 in. wide, and will turn out about 1½ tons of ore per fathom—very good quality ore; we have just had some large stones brought up rich ore; such a lode in this cut in the Redruth or Cambore district would very soon put shares in great demand. At Trenow we have cut into the south part of the lode in the 54 fm. level cross-cut, and is letting out a quantity of water; we expect in 6 days to get it down to the bottom.

CLARA UNITED.—J. Lester, March 5: Settings for March: The 20 to drive east by four men, at 85s. per fm.; the lode contains a mixture of lead and blende, but the present

EAST BUDNICK AND MOUNT.—William H. Reynolds, March 8: The monthly eastward was last Friday, when we re-set the 17 south to three men and three boys; the lode is made up of copper, flint, iron, with stones of blende and lead and is intersected the south lode in a month, if the ground continues good as at present. We have suspended the 17 west, and put the men to drive the 26 west, which is not far from being under the lead ground we drove through at the 17, and we hope soon to have to report an improvement.

EAST BUDNICK AND MOUNT.—T. G. Gianviti, Jr. Scholar, March 5: In the 26 east the lode is producing 3½ tons of ore per ft. In the winze sinking below the 26 the lode is dis-

the lode this week, but as we have had a change in the end, I thought it better

athom. The winze below this level is not taken. No change at the 40. The water is in fork at the new shaft, and the men have commenced sinking.

WEATHER PREDICTIONS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In my report in last week's Journal I stated we should have snow and rain in places, with a gale on the 1st inst. On Wednesday the *Times* stated—"On Monday it began to snow heavily in the eastern districts, driving showers continuing in succession; by the evening considerable accumulations had formed, and yesterday the ground was thickly covered." The gale on the 1st inst. occurred, and was very severe at Dover, Plymouth, and along that coast.

In my report in the *Mining Journal* on Feb. 21 I stated, although we should have an early spring, we should have one or two touches of sharp weather; this prediction has also been fulfilled, and we have again fine growing weather. For the next week the weather will be rather unsettled, showery winds and rain in places, with a variable temperature. A few weeks ago I announced the approach of another comet; this I now find is correct; it will be announced in about a month from this.

26, Throgmorton-st., E.C., March 4. G. SHEPHERD, C.E.,
Author of "The Climate of England."

NEW FUSIBLE ALLOY.—In addition to the fusible metal (cadmium, 1 or 2 parts; tin, 2 parts; lead, 4 parts; bismuth, 7 or 8 parts) already described by Dr. B. Wood, of Indianapolis, U.S., and which melts at 150° to 160° Fahr., he has since discovered another alloy (cadmium, 1 part; lead, 6 parts; bismuth, 7 parts) which melts at about 180 Fahr., or about midway between the melting points of the old fusible metal and that first described by Dr. Wood. The principal feature to be noticed in Dr. Wood's alloys is the proof given of the fluidifying properties of cadmium.

EXTRACTING COPPER FROM ITS ORES.—Some improvements in the treatment of copper ores have been patented by Mr. Haefely, of Kearsley, which consist firstly in the application of the refuse liquid discharged from chlorine generators as a menstruum for dissolving the copper contained in its ores, and secondly, in precipitating copper from its solution by the action of the refuse known in alkali works by the name of vat waste.

TIN-PLATES.—In the manufacture of tin-plates, Messrs. Kelly and Shakspeare, of Dudley, propose to employ an invention, which consists of two machines, one being used for scouring and cleaning the plates, or sheets of iron, prior to their immersion in the bath of molten tin, and the other for cleaning off the grease and polishing the surface after they are coated. The scouring-machine consists essentially of three pairs of rolls, the first and third pair being guide rolls, and the middle pair having brushes on their cylindrical surfaces. The said rolls are situated horizontally, and a hopper, containing a mixture of sand and water, is situated over the upper roll of the middle pair, and the lower roll of the said middle pair dips in a trough, also containing sand and water. Behind this pair of rolls are fixed brushes, which remove any sand that may be left adhering to the scored plates. The polishing-machine consists of nine pairs of rolls, the alternate pairs being guide rolls, and the four intermediate pairs polishing rolls, which are covered with woolen or sheepskin, and kept supplied with sharps from hoppers.

GOLD EXTRACTION.—An invention has been provisionally specified by Mr. B. G. Sloper, C.E., of Hackney, which is intended to effect the separation of particles of gold from earth and quartz, after being crushed or reduced to small particles, or pulverised by bringing mercury in contact therewith. His machinery consists of a hopper, opening at bottom into a cylinder placed horizontally, or nearly so, and fitted with agitators secured to a vertical shaft made to revolve in the hopper. Inside the horizontal cylinder he places and causes to revolve an Archimedean screw, and crushed rock or auriferous earths are introduced, together with mercury, into the hopper. At the opposite end of the cylinder to that at which the charge is admitted there is an outlet into a vessel furnished with sieves of different degrees of fineness, and containing a set of channels or passages communicating at one end with a fan or blower, while they are open at the other to receive the mercury and gold in the state of amalgam, the air driven through them preventing the entrance of all matters of less specific gravity; the action of the vessel is assisted by a shaking or joggling motion being imparted to it. From the lower part of this vessel the amalgam falls into a cylinder, in which an agitator is caused to rotate, whereby the globules of amalgam are beaten into one mass, and until this mass is sufficiently rich in gold, it is pumped back to the hopper with fresh-crushed quartz or auriferous earth, to act and be acted upon as before.

FITKIN'S DENTAL INSTRUMENT.—Mr. Fitkin, dentist, of Fleet-street, has recently patented an instrument for extracting teeth. The specification filed by Mr. Henry, the patent agent, Fleet-street, describes this apparatus as a compound instrument, consisting of two portions, of which one, called the fulcrum instrument, has a rest-piece and a bridge-piece in a piece with, or in rigid connection with, its stem or shank; the bridge-piece being a curved arch or arm, which bridges over or extends above the crown of the tooth, and forms a steady fulcrum for the second portion, or elevator, which works thereon as a lever. The rest-piece bears, or presses against the side of the gum opposite to that on which the elevator is centred. By depressing the handles of both instruments the tooth may be raised almost perpendicularly from the gum.

GUNPOWDER.—Messrs. Roberts and Dale, of Manchester, provisionally specified an invention which consists in a method of manufacturing gunpowder, whereby they are enabled to use nitrate of soda in place of, or in combination with, nitrate of potash; and the principle they proceed upon is to add thereto a substance which will effloresce, so as to correct the tendency of the material to become moist. Of these substances they mention, for example, the anhydrous sulphates of soda and magnesia.

SMOKING PIPES.—Mr. Henry, patent agent, Fleet-street, has just specified an invention, patented by Mr. Hyams, of Bath-street, for improved smoking pipes, and imparting aroma thereto. Mr. Hyams proposes to combine with the pipe-clay of iron, honey, treacle, sugar, carbonate of soda, and certain alkaline and non-alkaline salts, to impart strength, sweetness, and glaze. Various processes are described for treating pipes with cascarilla and other aromatic agents, in order to communicate aroma thereto, including the coating of pipes with perfume, and the exposing the pipes to aromatic vapours.

COMBINED LOCOMOTIVE AND CARRIAGE.—Mr. Heinrich Ehrhardt, of Dresden, proposes an "express railway carriage," which includes in one body, and mounted upon the same framing, a locomotive engine, a tender to carry water and fuel; and a carriage or compartment to receive a limited number of passengers. The whole carriage is not to exceed 25 ft. in length.

IMPORTANT TEST OF WIRE-ROPE.—Some tests have recently been made at the Liverpool Corporation machine, under the superintendence of Mr. W. McDonald, with the view of testing the strength of the charcoal rope supplied by Messrs. Whalley, Burrows, and Fenton for the shafts of the *Conestoga*. The ropes tested were a 5-inch rope by Messrs. Newall and Co., which broke at 34 tons 10 cwts., and a 5-inch rope by Messrs. Whalley and Co., which broke at the back of the thimble, though not in a nip, at 25 tons. Both ropes were thus above the Admiralty test, yet neither appear to have been equal to the ropes of Messrs. A. J. Hutchings and Co. and Messrs. Garnock, Hibby, and Co., a 4½-inch rope by the former makers having borne 37 tons 15 cwts., and a 4½-inch rope of the latter 26 tons 10 cwts.

KRUPP'S STEEL WORKS.—Mr. Bessemer has supplied plans of his apparatus for converting pig-iron directly into steel to Herr Krupp, for erection at his works at Essen. From what is known of the working of the Bessemer process upon the manganese ores of Prussia, it is altogether probable that Herr Krupp's entire manufacture of steel will ultimately be produced without resorting either to puddling or cementing. Herr Krupp is about erecting a plate-mill, the standards of which are to be 15 ft. apart, so as to roll plates 14 ft. wide, thus enabling the barrel of a locomotive boiler to be rolled in a single plate. Messrs. Caird and Co., of Greenock, are about receiving from Essen a cast-steel crank weighing 15 tons. Krupp is now executing an order for 250,000 steel rifle barrels for Russia, the barrels to be made solid, and afterwards bored out. The same maker will exhibit a 250-pound rifled cannon in the coming Exhibition.—*Engineer.*

WROUGHT-IRON BEAMS.—In a paper upon the Cramlin Viaduct, read by Mr. Henry N. Maynard, C.E., before the South Wales Institute of Engineers, in January, 1860, the author touched incidentally upon the application of riveted wrought-iron to engine-beams, and gave drawings and estimates for such beams of various sizes. Mr. Maynard writes us to say that a suitable wrought-iron beam for the Hartley engine could now be made for about 200l., which is less than what the cost of a cast-iron beam would be.—*Ibid.*

PRUSSIAN BANK OF INDUSTRY.—In the *Mining Journal* of Feb. 22, we referred to the successful operations of the Berliner Industrie-Beförderungs-Bank-Verein, and, from an advertisement which appears in another column, it will be seen that a London agency is now established, through which arrangements can be made for consigning goods to Prussia upon very favourable terms; and, by complying with certain easy conditions laid down in the company's rules, advances are made upon the merchandise so sent. The association has the advantage of a large proprietary capital, and will, no doubt, offer great facilities for the export of English manufactures to Germany.

ANOTHER COLLIERY ON FIRE.—A fire was discovered in Messrs. Rumley and Scott's Cannel Mine, Ringley, on Feb. 26, and which has been burning night and day ever since. On Sunday it burnt with greater intensity, and completely set at defiance every means used for putting it out, causing the greatest excitement and uneasiness to both men and masters. The fire originated in the firing of a shot by one of the workmen, who was employed about 400 yards south-east of the pit-eye—the shaft being 136 yards deep. It is supposed that the shot was a little overcharged, and that it fired outwards instead of upwards, as immediately afterwards the "gob" was found to be on fire. The "gob" is the loose slack and rubbish which the miner throws behind him when pursuing his work. Soon after the discovery of the fire mining operations were discontinued, and the whole of the men and boys arranged in relays, or "shifts," of 30 to 40 each, for the purpose of carrying water and assisting in putting out the fire. A large supply of water has thus been poured upon the seething mass of rubbish; and just when the fire was supposed to have been extinguished it would burst out in another place, sometimes rising into a flame, and constantly sending forth the most sulphurous vapours, which rendered several of the workmen insensible, and prevented any one from going to the vicinity of the fire. On Friday afternoon a number of pipes were sent down the shaft for the purpose of conveying water from the pumps, but notwithstanding this help, which was equal to the labour of a large number of men, the fire was burning more fiercely than ever on Sunday, and the whole of the masters, managers, and overlookers were present, doing everything that could be done—with the assistance of a large number of men—to extinguish it, but the fire was burning on Monday. The circumstance has created the greatest excitement in the district.

GOVERNMENT INSPECTION OF COAL MINES.—Now ready, price 6d., a Second Edition of the NEW MINE INSPECTION ACT; to which is appended the ACT FOR THE REGULATION AND INSPECTION OF MINES, which came into operation on Jan. 1.—To be had from the *Mining Journal* office, or through any bookseller in town or country.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, March 7, 1862.

COPPER.			BRASS.		
	£	s. d.		Per lb.	
Best selected....	101	0 0	Sheets.....	10d.-11d.	
Tough cake.....	98	0 0	Wire.....	9½d.-9¾d.	
Tile.....	98	0 0	Tubes.....	11d.-12¾d.	
Burra Burra.....	94	0 0-95 0 0			
Copapo.....					
Copper wire.....	101	0 ½			
ditto tubes.....	0 1 1				
Sheathing & bolts.....	0 0 11				
Bottoms.....	0 1 0				
Old (Exchange).....	0 0 9½				
IRON.			FOREIGN STEEL.		
	£	s. d.		Per Ton.	
Bars, Welsh, in London.....	6 5	0 0	Swedish, in kegs (rolled).....	15 10 0-16 0 0	
ditto, to arrive.....	5 17	6 0 0	(hammered).....	17 10 0-18 0 0	
Nail rods.....	7 0	0 0	ditto, in faggots.....	18 0 0-18 0 0	
Staircase, in London.....	7 0	0 7 10 0	English, Spring.....	18 0 0-18 0 0	
Bars, ditto.....	7 5	0 8 0 0	Bessemer's, Engineers Tool.....	4 0 0-4 0 0	
Hoops, ditto.....	8 10	0 9 0 0	Spindle.....	30 0 0	
Sheets, single.....	9 0	0 9 10 0	QUICKSILVER.....	7 0 0 p. bottle	
Fig. No. 1, in Wales.....	3 0	0 4 0 0			
Refined metal, ditto.....	4 0	0 5 0 0			
Bars, common, ditto.....	5 0	0 0			
ditto, merchant, in Wales.....	6 10	0 0			
ditto, railway, in Tees.....	5 0	0 5 2 6			
ditto, Swed. in London.....	11 10	0 12 0 0			
To arrive.....	11 0	0 11 10 0			
Fig. No. 1, in Clyde.....	2 8	0 2 18 0			
ditto, f.o.b. in Tees.....					
ditto, forge, f.o.b. in Tees.....					
Staffordshire Forge Fig. No. 1.....	3 10	0 3 12 6			
Welsh Forge Pig.....					
LEAD.			SILVER.		
	£	s. d.		Per lb.	
English Pig.....	20	0 0-21 5 0			
ditto sheet.....	21	0 0-21 5 0			
ditto red lead.....	21	0 0-21 15 0			
ditto white.....	28	10 0-30 0 0			
ditto patent shot.....	22	10 0-23 0 0			
Spanish.....	19	5 0			

REMARKS.—The prevailing characteristics of our market are a marked scarcity of bona fide orders, and a general drooping tendency in almost all metals. The little business which has been doing is for the most part confined to present requirements, buyers merely purchasing from hand to mouth, until a more favourable turn shall occur in the market, to impart greater confidence in effecting contracts. Shipments to most foreign ports are still greatly in excess of the demand, and, consequently, leave but a slight chance of realising a profit in those markets. Consumers may, probably, soon be tempted by the low rates now ruling to buy more freely than of late, but as yet they operate very cautiously. The vast and yearly increasing production of metals renders comparative statements of little worth; due and proper allowance should be made for the extra supplies, and the average of prices must be reduced, otherwise it will be disproportional. It is not unlikely that even present rates will go lower still, and perhaps not experience any great advance for a long time to come. The prospects of the market are anything but cheering.

COPPER.—On the 3d inst. the smelters announced a decline in fixed rates of ½d. per lb. in manufactured, and 4½. 10s. per ton in raw, making present rates for sheets and sheathing 11½. per lb., and for cake, tile, and ingot, 98½. per ton. This step has been generally anticipated ever since the previous fall, which proved totally insufficient to stop underselling. Foreign descriptions are dull, and exhibit a declining tendency. Burra Burra offering freely at 95½., business done as low as 94½.; Kapunda, 96½., nominal; Spanish, 86½.; Chili, 85½. to 86½. Yellow metal: Simultaneously with copper, this metal was reduced ½d. per lb.—to 9d., but can be bought at 8d.; in fair request.

IRON.—No alteration to notice in railway bars; merchant bars continue in good ordinary demand at 5½. 2s. 6d. to 5½. 5s. at the works, and 6½. delivered f.o.b. in London. Staffordshire makes are improving slowly. The demand for best bars, nail rods, and hoops, has increased; no alteration in quotations. Swedish bars are in limited supply at 11½. 10s.; sellers quote 11½. 15s. to 12½., but few arrivals take place. Scotch pigs have remained quiet all the week at 49s. to 49s. 1½d., mixed numbers.

LEAD.—English pig, in the absence of any increase in the demand, has further declined to 19½. 15s. for ordinary quality, and 21½. for superior brands; market extremely quiet; rather more enquiry for sheets; other kinds dull. Spanish pig, 19½. 5s.

SILVER.—The market is heavy and declining; sellers quote 17½. 10s., but great difficulty is experienced in making sales.

ZINC.—Steady at 23½.

TIN.—No alteration has taken place in fixed rates of English, they are, however, scarcely obtainable. Foreign has improved slightly; sales of fine Straits reported at 117½. for cash, and 118½. with extended prompt; Banca, 125½.

TIN-PLATES.—In more request, chiefly for shipment to America: quotations remain without alteration.

STEEL.—Inactive; prices unaltered.

The MINING SHARE MARKET has been moderately active this week, and a steady business has been done. Copper has declined ½d. per lb., and this will, probably, be followed by a drop in the standard for ore, which may have the effect of depressing dividend mines for a time, and bringing increased attention to progressive and speculative shares. The dividend mines in which the largest transactions have taken place, and which seem to become more in demand, are East Caradon, Devon Great Consols, Tincroft, Providence Mines, Great Wheal Fortune, Wheal Seton, South Tolgus, Marke Valley, Trelawny, &c. In progressive mines, the most deals in are, East Carn Brea, Rosewarne, Wheal Grenville, East Grenville, Ludcott, North Basset, Unity, Retallack, Carn Camborne, East Wheal Russell, Wheal Uly, Stray Park, South Caradon Hooper, St. Day United, North Minera, Bottle Hill, &c. Rosewarne shares have had more than a cent. per cent. rise; last week they were at 16, and after reaching 30 on Wednesday, and then receding again to 24, they improved on Thursday; and on Friday, on receipt of private intelligence that the lode had greatly increased in value, rose to 35, but left off 32 to 34. On Monday a circular from the purser announced to the shareholders that an improvement had taken place in the 58, west of Richards's engine-shaft, worth 25½. per fm. On Thursday this was valued at 30½., but the private report of Friday, alluded to, values it, we understand, much higher. The mine has been proverbially bunched, and about a year ago a discovery sent the shares from 20½. to 80½., and they afterwards dropped to 15½.; we hope the present rise may be more lasting. East Carn Brea have reached 11½. to 12, leaving off 11½. to 12; the 26 fm. level east is reported worth 3½. tons per fm.; in the winze below the 26 the lode is disordered by a horse of kellas; the 40, west of cross-cut, is worth 3 tons; the 50 east, 3 tons; the winze below the 40, 2½. tons per fm.; the 40, east of western shaft, 3 tons; the 30 west, 3 tons per fm. East Caradon have reached 33½. to 34, and in good demand; the 50 east, on the caunter lode, is worth 70½. per fm.; the 60 east, 55½. per fm. On the new lode, the 60 west is worth 42½.; east, 12½. per fm. On Fawcett's lode the 60 east is worth 12½. per fathom. The next sampling is computed at 413 tons. North Basset, 3½. to 3½.; the lode in the 142, west of flat-rod shaft, is 2½. feet wide, producing ½. ton of copper ore per fm. Devon Consols, 410 to 420; Cook's Kitchen, 30½. to 31½.

Providence Mines, 41 to 42, ex div.; the report of the mine is favourable. One stop on the new south lode is worth 120½. per fm., and another, below the 65, has improved to 80½. per fm. The agents' conclude by stating, "The mine, on the whole, has never presented a more permanent character than at present." Bottle Hill, 10s. to 12s. Condurrow shares are flat, at 60 to 62½. Craddock Moor, 28 to 30; East Basset, 45 to 47½; South Frances, 97½. to 102½.; at the meeting, on Monday, the accounts showed a profit of 280½. 18s. 7d. on the two months, and a balance in hand of 2208½. 10s. 2d. In the 54, at Pascoe's shaft, a cross-cut is being driven to intersect the north part of the lode, and which, it is calculated, will take one month to accomplish. East Russell, 2½. to 3½.; Grambler and St. Anby, 14 to 16. North Treskerry shares have declined to 18, 20; at the meeting the accounts showed a loss, we understand, of about 500½. on the two months, and the samplings declining. We hear dissatisfaction was expressed at the management, and a committee appointed, with unlimited powers to investigate affairs, and act as they may think best for the interests of the mine. Great South Tolgus, 3½. to 4; Great Wheal Fortune, 15½. to 15½. Wheal Grenville shares opened at 3½., buyers, on Monday morning, but during the day the price was put down through market operations to 50s., 52s. 6d. The shares have fluctuated all the week; and, after receding to 48s., on Thursday a great demand sprang suddenly up, and they rose to 54s. 56s.; they leave off, however, 53s. to 55s. On

Monday morning the report received from the agent valued the new lode in the 80 at 30½., showing a falling off of 20½. On Friday morning another report was received, stating "There is no material change in the mine since our last advice, on Saturday." We may add to this that the fall in the shares was owing to reports circulated in the market that the lode had fallen off to "stones of ore" only, and which has proved to be false, if the agent is to be relied upon. On Friday afternoon a large quantity was received that the 110 had improved to 20½., 25½., and the 80 continued of the same value. East Grenville shares have been in good demand, very firm, leaving off 37s. to 39s. The mine is improving, and the lode the 45 is worth 20½. per fm. Rosewall Hill and Ransom United, 3½. to 4½. the lode in the 140, west of engine-shaft, is worth 12½. per fm. In the east of Ransom, the lode is daily increasing in size and value, and is worth 70½. per fm. Herodsfoot, 35 to 36; Lady Bertha, 10s. to 11s. Condurrow shares have been in good demand, and leave off 4½. to 5½. the mine is adjoining Carn Camborne, and has fine prospects. The shaft has been sunk to the 36, and the end east yielding stones of ore winze sinking below the 17, and before the 36 fm. level end, is worth 12½. per fm. Fraser's shaft is down to the 24, and a level going east has selected a lode worth 50½. per fm., and improving. Hingston Down, 24½. to 25½.; the 85 west continues worth 12½. per fm., and promising for improvement. Sampled 360 tons. Wheal Unity shares have not been quiet firm, and leave off 16s. 6d. to 18s. 6d.; the lode in the 50 west was down on Tuesday, and worth ½. ton of very rich copper ore per fm. (previous taking down it had been worth 20½. per fm.). In the 63, cut north a part of the lode has been cut worth ½. ton of ore per fm. Seton, 62½. to 67½.; North Crofty, 39s. to 41s.; North Downs, 5½. to 6½.; North Frances, 2½. to 3; North Roskear, 22½. to 23½. Carn Camborne, 12s. to 14s.; in the 13, east of cross-cut, Clarke's lode has improved ½. ton of ore to the fm.; this is 40 fms. east of the ore ground in the level, and 25 fms. beyond is Stray Park cross-course, against which ore was made in that mine. North Robert, 18s. to 20s. Marke Valley shares 10 to 10½., and not quite so firm. Prosper United, 23½. to 24½. moor, 4s. to 5s.

West Tolgus shares have been in demand, and advanced to 23½. The mine has improved at Taylor's shaft and in the 65, or bottom, going towards the shaft. South Caradon, 31½. to 32½.; South Caradon Hooper, 14s. to 16s. South Tolgus shares have been in demand and leave off 55 to 57. Stray Park shares have advanced to 33, 35. North Croft shares have advanced to 10½. 10½. Treloweth, 20s. to 22s. Trecrom, 3 to 3½.; Wendron Consols, 12½. to 13; West Caradon, 40½.; West Frances, 9 to 9½.; West Seton, 26½. to 27½.; Wheal Russell, 100 to 105; Wheal Buller, 62½. to 67½.; Wheal Clifford Amalgam, 31 to 32; Wheal Crebor, 9s. to 11s.; Wheal Kitty (Leland), 11½. to 12½.; Wheal Ludcott shares have been in good demand at 3 to 3½. Margaret, 43 to 44; Wheal Mary Ann, 15 to 15½.; Wheal Seton, 12½. to 12½.; Wheal Trelawny, 17½. to 18½.; Wheal Uly, 5½. to 5½. Wheal Uly, 14 to 15. At the meeting the accounts showed a credit balance of 557½. 4s. 1d. A new calciner, which may cost 300½. to 400½., is erected, and for a month or two the sales of tin will be suspended; but call will be required, and in about six months it is expected the mine will be in a position to pay dividends. Tamar Consols, 29s. to 31s. The mine has sold 60 tons of silver-lead, at 20½. Holmbush new shares, par value, 10s. The 160 west is worth 3½. tons per fm. The 160, east of lead lode, has improved to 20½. per fm.; winze below the 160, 3 tons per fm. sampled 310 tons of copper ore.

Merlyn, 5s. to 10s.; in clearing the old shaft, on the north and middle lode—now down from 8 to 9 fathoms, and not yet down to the old workings—fine stones of lead ore have been found in one end of the shaft, several kibbles of good stuff broken on Thursday; and the agent immediately expects a good lode in the bottom, now close at hand; and that 20 cross-cut, where it is also daily expected to be met with. Great tallack, 10s. to 12s. 6d.; 16 feet have been driven through the high lode in the 53, and it looks very kindly for copper and lead. East Gungah and South Bedford, 15s. to 20s.; the lode in the 46 east has improved 2 tons per fm.; the 36 east, 3 tons per fathom.

On the Stock Exchange a large amount of business has been transacted in Mining Shares during the week. The following prices were officially recorded in British Mining Shares:—East Carn Brea, 11½, 11½, 11½, 11½; Wheal Kitty, 11½; East Basset, 47½; East Caradon, 31, 31½, 32½, 33; Grambler and St. Anby, 14, 13½, 14½; Great South Tolgus, 4½, 4½; Marke Valley, 10½; North Wheal Basset, 3½, 3½; Great Wheal Vor, 7½; Tincroft, 10, 10½, 10½; Wheal Edward, 1½. In Foreign Mining Shares the prices were:—Capula, ½, ½; Mariquita, ½; St. John's Key, 63½, 64, 64, 63½; United Mexican, 7½, 7½, 7½; East del Rey, 1½; Fortuna, 2½, 2½; Pontigbaud Silver-Lead, 1½; Santa Barbara Gold, ½, ½; Cobre, 32½, 32½. In Colonial Mining Shares the prices were:—Port Phillip, 1½, 1½, 1½; Scottish Australian, 1½, 1½, 1½; Worthing, ½, ½; Great Northern Copper of South Australia, ½, ½; North Rhine Copper of South Australia, ½, ½.

The closing quotations for shares in new undertakings were:—Marine, 7½, 8, 8, 8; Thames and Mersey Marine, 1½, 1½, 1½, 1½; Universal Marine, 2½, 2½, 2½, 2½; London and Provincial Marine, 1½, 1½, 1½, 1½; Mercantile City, 13-16 to 15-16 prem.; Commercial Union, 1½, 1½, 1½, 1½; City of Rio Improvements Company, 3-16 to 5-16 prem.; India-Rubber Company, ½, ½, ½, ½; Westminster Brewery, 4½, 4½, 4½, 4½; Santa Barbara Mining Shares were quoted ½, ½, ½, ½; North del Rey, ½, ½, ½, ½; Montes Aurores, par to ½, ½; East Croft, 1-16 to 3-16 prem., a good business done; Capula, par to ½, ½; Gungah Consolidated, ½, ½, ½, ½; Hindostan Copper, ½, ½, ½, ½.

MINING EXCHANGE SHARE LIST.—The following is forwarded to us officially from the Mining Exchange as business done during the week:—SATURDAY, MARCH 4.—Uny, 5-16ths; West Frances, 9½; East Carn Brea, 11½; North Roskear, 23; Great Fortune, 15-16ths; North Robert, 19-20; Great South Tolgus, 4½; North Basset, 3½; 7-16ths (call paid); Seton, 12½; East Caradon, 31; West Condurrow, 3½. MONDAY.—Cuddah, 11s 9d (call paid); East Caradon, 30½; Rosewarne, 35, 35, 35, 35; West Condurrow, 4½, 4½, 4½; Uny, 5½; Great Fortune, 15½; Marke Valley, 10½; East Wheal Grenville, 34s 6d, 35s; North Downs, 5½; East Carn Brea, 11½; 9-16ths, 3½. TUESDAY.—Old Tolgus, 23½; East Carn Brea, 11½, 11½, 11½; Seton, 12½; North Basset, 3-7-16ths; East Seton, 3½. WEDNESDAY.—Rosewarne, 29½; 30; Uny, 5-16ths, 1½; East Caradon, 31½; 32½; North Roskear, 23½; 24; Great Fortune, 15-16ths, 5½; East Carn Brea, 11½, 11½, 11½, 11½; Stray Park, 30½; North Basset, 3-7-16ths; Ludcott, 3; Gungah, 49s 6d, 50s 6d; Seton, 12½; North Downs, 4½; Tamar Consols, 1½. THURSDAY.—East Carn Brea, 11 11-16ths, 5½; 7-16th, 3½; Seton, 12½; East 5-16ths; Great Fortune, 15-16ths, 5½; Rosewarne, 31½, 32½; Ludcott, 3; Stray Park, 31½, 3½; North Roskear, 22½. FRIDAY.—Rosewarne, 34, 35½; Trecrom, 3½; East Caradon, 32½, 33½, 34; Condurrow, 4½, 5; North Downs, 5½.

IRISH MINE SHARE MARKET.—Large and numerous transactions have taken place this week in the shares of the Mining Company of Ireland and of the Wicklow Copper Mining Company; the former rose on Feb. 29, 19½. and 19½. 5s., for account, and are now in demand at a trifling premium on that price—at 19½. or 19½. 2s. 6d., for account, or an advance of 10s. per share on the price last marked by us. Wicklow Copper shares fell further to 50½. each, at which price they were firm on Saturday when the committee of investigation and the directors of the company met for the first time. As we anticipated, from the character of the gentleman engaged in the consideration of the interests involved in the contemplated amalgamation with the Hibernian Mining Company, this first meeting promises an adjustment of affairs which will give general satisfaction; this expectation may be attributed the unusual demand for shares in Wicklow Copper on Monday, raising the prices on that day to 52½., or an advance of 5½. 15s., and since to 54½., buyers, sellers at 54½. 5s., or an advance of 3½. 5s. per share on our last quotation. A desire to realise a balance, however, brought them down again to 53½. In our notice of this and the Hibernian Mining Company, in last week's *Journal*, we omitted to state that the amount of the Hibernian shares is 100½. Irish currency, equal to 92½. 6s. 2d. sterling, the amount paid upon the same. In the mean time, the mines of less note are not much enquired for. Connore shares have been bought at 29s.; Carysfort shares are nominally quoted at 8s. 6d. to 8s. 7d. at a great reduction. Mines holding large stocks, and having great reserves of sulphur, begin to understand that it will be more to their interest not to hold out much longer for an advance on the present current price of 21s. per ton, delivered at port. Prices from 24s., and upwards, will enable Spanish and Belgian sulphurs to compete in the English market, whereas the present price excludes it. Mines with courses of iron pyrites of such magnitude as those of Ballymurtagh and of Cronbane will make a large profit even at 21s. A re-opening of the American market for all

of the property, and they had induced him to take a seat at the board of Mr. Woolmer. As Mr. Hitchins was not a man to work for nothing, the shareholders asked them to confirm their act of giving to Mr. Hitchins 100 of the shares endorsed as fully paid up. This being unanimously agreed to, thanks were given to the Chairman, and the meeting separated.

tion of the four figures 1835, no doubt considered of great value by the originators of

The copper in the ore expresses the nett price per ton of copper paid to the miner

Copper Ores for sale at Swansea, March 11.—Knockmahon 71, 63, 59, 63, 62—Cobre 68, 48, 41, 27, 19, 7, 9—Bereha ren 131—Springbok 45, 36—Burnt ores 34—London 20, 2, 2, 1—Seville ores 56, 1—English and Canadian 18, 16—Mixture 38.—Total 18 tons.

THE DEE BANK COLLIERY COMPANY (LIMITED).

To be established and registered under the Joint-Stock Companies Acts, whereby the liability of the shareholders is limited to the amount each subscribes.

Capital £75,000, in 750 shares of £100 each. Deposit on application, £5 per share. First call on allotment, £5 per share, in addition to the deposit on application. Further calls will be made (not exceeding £10 each call per share) as the capital is required for the progress of the works, which will extend over a period of about two years.

PROVISIONAL DIRECTORS.
 GEORGE ONSLOW NEWTON, Croxton Park, Cambridgeshire.
 WILLIAM KEATES, Greenfield Hall, Holywell.
 EDWARD THOMPSON, Hawarden, Flintshire.
 GEORGE HAWORTH, Flockenbrook, Chester.
 WILLIAM MOON, Woolton Hill House, Woolton, Liverpool.
 GEORGE COOPER, The Dell, Hylake, Cheshire.

BANKERS—The North and South Wales Bank, Liverpool.
SOLICITORS—Messrs. Stockley and Wrigley, 16, Castle-street, Liverpool.
CONSULTING ENGINEER—Jacob Higson, 94, Cross-street, Manchester.
RESIDENT MANAGER—George Haworth.
SECRETARY (pro tem.)—Richard Lloyd.

OFFICES (pro tem.)—16, CASTLE STREET, LIVERPOOL.

PROSPECTUS.

The object is to re-open and work the extensive coal field at Bagillt, Flintshire, known as the Dee Bank Collieries, which were formerly worked on the crop of the seams, but discontinued 20 years ago, in consequence of an eruption of water from a neighbouring colliery overpowering the then existing inefficient machinery.

The following extracts from the report of an eminent colliery engineer, dated Nov. 5, 1861, speak to the position and capability of the coal field; and he estimates that, with an expenditure considerably less than the proposed capital, the colliery will produce 200,000 tons of coal per annum, and yield a profit of 25 per cent. per annum.

"I am well and thoroughly acquainted with the mines and collieries of North Wales and Lancashire, and in other districts, but I do not know any coal field where the mines or seams of coal are so numerous, thick, superior in quality and easy to work, as those in the locality under consideration, while the facilities for disposing of the produce are exceedingly favourable.

"The colliery being situated close to the Chester and Holyhead Railway, and also to the River Dee, an unequalled outlet is opened to almost every market accessible by railway and sea, besides possessing a large local demand for every description of coal, which it is natural to suppose would be augmented by a corresponding supply.

"The aggregate thickness of the several seams of coal in this field has been proved to be about 60 ft., the main or five-yard seam alone being upwards of 12 ft., the three-yard seam 8 ft., and the two-yard 6 ft. in thickness."

An advantageous lease of the coal field, extending over about 3600 acres, is obtained, and the position of the provisional directors, combined with their knowledge of the locality, is a guarantee that the undertaking is one of the most *bona fide* character, and that it will be carried out with prudence and success.

Detailed prospectuses, and engineer's reports, may be obtained on application to Messrs. MAPLES, MAPLES, and PEARSE, solicitors, Frederick's-place, Old Jewry, London; Messrs. SALE, WORTHINGTON, and SHIPMAN, solicitors, Manchester; Messrs. STOCKLEY and WRIGLEY, solicitors, 16, Castle-street, Liverpool; to Mr. JACOB HIGSON, mining engineer, 94, Cross-street, Manchester; or to the secretary, Mr. RICHARD LLOYD, at the office, 16, Castle-street, Liverpool, to whom also application for shares may be made.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Dee Bank Colliery Company (Limited).

GENTLEMEN,—Having paid to the bankers of the company £5, being £5 per share deposit on shares of £100 each in the said company, which, or any less number you may grant, I hereby agree to accept, subject to the Articles of Association, and to pay the call of £5 per share on allotment. I further authorise you to place my name on the register of shareholders for the number of shares which may be allotted to me, and I promise to pay all calls thereon that may be hereafter made, in such manner, and at such time as you may direct.

Name in full.....
 Address.....
 Date.....
 Profession or occupation.....
 Dated this day of 1863.

THE GREAT DAREN SILVER-LEAD MINING COMPANY (LIMITED).

Incorporated by virtue of the 19th and 20th Vic., c. 47, and 20th and 21st Vic., c. 14.
 Capital £36,000, in 36,000 shares of £1 each.
 £1 to be paid at the time of subscribing, and the balance, if required, by instalments of 5s. each.

BANKERS—Bank of London, Threadneedle-street.
LOCAL PURSER—C. M. Thomson, Esq., banker, Aberystwyth.
SECRETARY—Mr. Thomas Spargo.
REGISTERED OFFICES.
 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

The old Daren is one of those ancient mines formerly worked by Sir Hugh Myddleton, from which he derived immense profits, with the inefficient and rude machinery then employed to carry on the works. The ore raised from the lodes in this set is extremely rich, producing upwards of 40 ozs. of pure silver to the ton, and about 75 per cent. of lead, thus taking the first place amongst the argentiferous lead ores of Cardiganshire.

This property is considered by mining agents and those competent to judge of its value to be one of the richest in the county, and it is fairly assumed, by statistical calculation, that as soon as the old mines are drained, the various levels laid open, and the Cwm-symlog lode fairly developed, a clear profit of £800 per month will be returned to the company; in fact, the return thrown away by the old workers is being worked over at the present time at a clear profit of 10s. in 11.

The mine is held under a lease for 21 years from the present time, at 1-14th dues. Ample machinery is already erected to bring it to a successful issue. The operations are being prosecuted with vigour, under the able superintendence of Captain Matthew Francis, and there is every certainty of its being a rich and lasting mine.

Further particulars, with prospectuses and reports, together with plans and sections, and every information required respecting the property, will be furnished on application to the secretary, at the offices of the company.

THE EAST CLOGAU GOLD MINING COMPANY (LIMITED).

Incorporated with limited liability under the Joint-Stock Companies Acts.
 Capital £60,000, in 60,000 shares of £1 each. Deposit 2s. 6d. on application, and 5s. on allotment.

No further calls will be made without a special meeting of the shareholders convened for that purpose.

S. L. WOODHOUSE, Esq. (firm of Woodhouse, Richards, and Co.), 14, Abchurch-yard, Cannon-street.
JOHN SAY SPARKES, Esq., H.E.L.C.S., Brunswick Villas, St. John's Wood, W. (Director of the Great Moelwyn Slate Company).
JOSEPH OWEN, Esq., Australian Merchant, Sheffield.
Major CHARLES SANDERS, The Ingram, Thirsk, Yorkshire (Director of the Chesterfield and Midland Silkstone Colliery Company).
J. S. St. V. JERVIS, Esq., Surbiton, Surrey.

BANKERS—London and County Bank, Lombard-street.
MANAGER AT THE MINES—Capt. G. F. Gobie, late from the gold mines in Australia, California, and Brazil.
SOLICITOR—James Bell, Esq., Abchurch-lane, London, E.C.
BROKERS—Messrs. Cavell and Stincham, 20, Cornhill, E.C.
SECRETARY (pro tem.)—Mr. Charles Arkell.

OFFICES—2, CROWN COURT, THREADNEEDLE STREET, E.C.

ABRIDGED PROSPECTUS.

The object of this company is to work a grant of a portion of the St. David's gold-bearing lode in the Clogau Mountain, near Dolgelly, in Merionethshire, North Wales. As an example of the immense value which the gold mines in the district now have and are daily attaining, it is well known that the Clogau Gold Mining Company's shares have risen during the last two years to more than 700 per cent. upon the amount paid upon them, and although the last dividends were only 60 per cent. upon the capital, yet it was well understood that this was equivalent to 300 per cent. upon the actual outlay spent upon the gold workings.

Similarly, since the discovery and yield of gold in the Prince of Wales Mining Company, the shares have increased in value to nearly an equal extent.

The gold-bearing lodes of the present company have been proved to be identical with and in every way similar to those of the now rich and widely-known Clogau, and, moreover, being placed immediately and at only a few hundred yards distant on each side from two well-known gold-producing mines, both yielding enormous profits, the directors have the greatest confidence in predicting that large quantities of gold must be immediately found in the set, and, believing such, now offer it to the public.

Reports, prospectuses, plans, drawings, specimen of the gold quartz, and other information, may be had of the secretary, at the offices of the company.

The deposits will furnish the capital requisite to develop the capabilities of the property, and no call will be made without the sanction of the shareholders at a meeting specially convened for the purpose.

Applications for shares to be made to the brokers, bankers, or the company's offices, accompanied by the deposit of 2s. 6d. per share, and the directors do not in any case hold themselves responsible to allot the full number of shares applied for.

THE MINING REVIEW, AND JOURNAL OF COMMERCE, TRADE AND MANUFACTURE, SCIENCE AND THE ARTS.

Wednesday, March 5, 1863. Subscription, £1 ls. annually. Price 6d. stamped.

RAILWAYS AND MINES.

Capitalists who seek safe and profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the *bona fide* merits of the property. Railways depend upon the traffic, expenditure, and capital accounts, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the money market as affecting the renewal of debentures, and other considerations founded on data to which those only can have access who give special attention to the subject. Mines afford a wider range for profit than any other public securities. The best are free from debt, have large reserves, and pay dividends bi-monthly varying from 15 to 25 per cent. per annum. Instances frequently occur of young mines rising in value 400 or 500 per cent. But this class of security, more than any other, should be purchased only upon the most reliable information. The undersigned devote special attention to railways and mines, afford every information to capitalists, and effect purchases and sales upon the best possible terms. Thirty years' experience in mining pursuits justifies us in offering our advice to the uninitiated in selecting mines for investment; we will, therefore, forward, upon receipt of Post-office order for 5s., the names of six dividend and six progressive companies that will, in our opinion, well repay capitalists for money employed.

Messrs. TREDINNICK AND CO., STOCK AND SHAREBROKERS, AND DEALERS IN BRITISH MINING SHARES, 75, LOMBARD STREET, E.C.

GOVERNMENT INSPECTION OF COAL MINES, ACT FOR THE REGULATION AND INSPECTION OF MINES,

Now ready, price 6d.,
 TO WHICH IS APPENDED THE
GLOSSARY OF ENGLISH AND FOREIGN MINING AND SMELTING TERMS.
 Second edition, revised and much enlarged.
 London: Mining Journal office, 26, Fleet-street, London, E.C.; and of all booksellers and newsmen.

THE PROGRESS OF MINING IN 1861,

BEING THE EIGHTEENTH ANNUAL REVIEW.
 BY J. Y. WATSON, F.G.S., Author of the *Compendium of British Mining* (published in 1843), *Gleanings among Mines and Miners*, &c.
 The SEVENTEENTH ANNUAL REVIEW OF MINING PROGRESS appeared in the MINING JOURNAL of December 29, 1860, and January 5, 1861.
 A FEW COPIES OF THE REVIEW OF 1860, containing Statistics of the Metal Trade the Dividends and Percentage Paid by British and Foreign Mining Companies, and the State and Prospects of upwards of 200 Mines. Also a FEW COPIES OF THE REVIEW OF 1852, 1853, and 1854, MAY BE HAD ON APPLICATION at Messrs. WATSON and CUELL'S Mining offices, 1, St. Michael's-alley, Cornhill, London.
 Also, STATISTICS OF THE MINING INTEREST. By W. H. CUELL.

WATSON AND CUELL'S MINING CIRCULAR,
 published every Thursday morning, price 6d. or £1 ls. per annum, contains Special Reports of Mines, and the Latest Intelligence from the Mining Districts, from an exclusive resident agent; also, Special Recommendations and Advice upon all subjects connected with Mining, and interesting to investors and speculators. A Record of Daily Transactions in the Share Market, Metal Sales, and General Share Lists, &c. Edited by J. Y. WATSON F.G.S., and published by WATSON and CUELL, 1, St. Michael's-alley, Cornhill. M.B. Messrs. WATSON and CUELL have made a selection of a few dividend and progressive mines, which they have reason to believe will pay good interest, with a probability, also, of a rise in value, the names and particulars of which will be furnished on application.

INVESTMENTS IN BRITISH MINES.—
 MR. MURCHISON'S REVIEW OF BRITISH MINING FOR THE QUARTER ENDING 30TH MARCH, 1861, with Particulars of the Principal Dividend and Progressive Mines, Table of the Dividends Paid in the last Five Years, &c., is NOW READY. Price One Shilling. At 117, Bishopsgate-street Within, London, E.C.
 Reliable information and advice will at any time be given on application.
 Also, COPIES OF "BRITISH MINES CONSIDERED AS AN INVESTMENT." By J. H. MURCHISON, Esq., F.G.S., F.S.S., Pp. 356, boards, price 3s. 6d., by post 4s. See advertisement in another column.

VENTILATION OF COAL MINES.

AN ESSAY ON THE CAUSE OF EXPLOSIONS, AND MEANS OF PREVENTION.
 By a COLLIERY MANAGER.
 Free and unprejudiced minds will neither antiquate truth for the oldness of the notion nor slight her for looking young, or bearing the face of novelty.—HENRY MORE, F.R.S.
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 Eighteen years cashier and book-keeper in extensive works.
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 London: Mining Journal office, 26, Fleet-street, London, E.C.

ASSAYS AND ANALYSES OF EVERY DESCRIPTION

Conducted by JOHN MITCHELL, F.C.S., M.G.A. (late Mitchell and Rickard), Author of "Manual of Practical Assaying," "Metallurgical Papers," &c.
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JOINT-STOCK COMPANIES PROMOTED.

REPORTS, PROSPECTUSES, NEWSPAPER NOTICES, &c., PREPARED AND ADVERTISING METHODISED, by Mr. LEE STEVENS, No. 36, CANNON STREET, LONDON, E.C.

FINANCIAL AND ENGINEERING CONTRACTS.**Notices to Correspondents.**

* Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

We have made enquiry as to the suggestions of our correspondent "B," and we find the vein of slate he asks about is pronounced by every practical man who has seen it to be the Rhinwyrddir vein: we also learn that a large sum has been offered to the company for the property since the vein has been proved.

HINGTON DOWN.—"Dividend" should attend the next meeting of shareholders, then ascertain the particulars he requires, and suggest the alterations he thinks requisite in the management.

SIN.—I shall feel obliged if any of your readers will inform me, through the Journal, if there is any demand for wolfram, tungstate of iron—where to obtain a sale, if any, the price per ton, and place of delivery, with any other particulars that may lead to a sale.—MINE AGENT: St. Austell, March 6.

COLLIERY WORKINGS.—The letter of "A Pitman" shall appear in next week's Journal. SUBSCRIBERS IN AMERICA.—Our friends in America are informed that they can obtain the Mining Journal by ordering it from a bookseller in any of the principal towns of the United States. Mr. Tribner, of Paternoster-row, is the London agent, and sends parcels by every mail to the principal booksellers and news agents there.

* With last week's MINING JOURNAL we gave a SUPPLEMENTAL SHEET which contains:—Steam Regenerators (with Engraving)—The Geological Formation of the Earth—England's Position: the Miners, Mining Schools, and Chemistry—The Principles of Geology—Heat-Conducting Powers of Amalgams—What is Good Iron, and How is it to be Got?—On the Impurities of Commercial Zinc—Wicklow Copper Mining Company—Glan-y-Pwll Slate and Slab Company—Great Wheal Martha Mining Company—Pendene Consolidated Mining Company—Successful Mining—Wilds' Ventilator—New Gold Mining Machinery—Plan of the Seton District: Map showing the Relative Position of the Seton Mines, and others adjoining.

* In a SUPPLEMENT to the Journal of Feb. 22 was published the paper read by Mr. Salmon at the Society of Arts, on the Relative Merits of the Different Systems of Working Metallic Mines and Collieries. The Supplement also contained a Plan and Description of the Seton District—a Review of Mr. Makins' "Science of Metallurgy"—the meeting at Wheal Grylls on starting the steam-stamping machinery—the news from Australia—the Quarterly Returns of the Sales of Black Tin and Lead—the Mills and Forges in South Staffordshire—Statistics of Colliery Accidents, &c.

* With the MINING JOURNAL of January 18 we gave a SUPPLEMENTAL SHEET, containing the TITLE-PAGE and INDEX to our THIRTY-FIRST VOLUME.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MARCH 8, 1863.

Formerly the Stannaries Court had exclusive jurisdiction over all cost-book mines and mining affairs situate within the county of Cornwall, a privilege which survived until recent times. When, however, Cornish cost-book mines were established in London, and the capital, for the most part, was raised there, it was said to be a great inconvenience that such a mine should be wound-up in Cornwall, and that all its shareholders and contributors should have their affairs adjudicated upon by an inferior Court, situate in the remotest corner of England. To remedy this alleged defect, the 12th and 13th sections of the 20th and 21st Vic., c. 78, were passed, which enacted that petitions for the winding-up of cost-book mines within the Stannaries should not be filed in the Court of Chancery, unless it should appear to the Court of Chancery to be more conducive to the interests or convenience of adventurers and creditors, or to the saving of time or expense, that such proceedings, or any of them, should take place in the ordinary course and practice of the Court of Chancery. Sections which it will be observed not only gave to the Court of Chancery a jurisdiction co-ordinate with the Stannaries, but, strangely enough, made the Court of Chancery itself the arbiter as to the necessity or non-necessity of its own interference. It has always been affirmed that the Court of Chancery is greedy for jurisdiction, and that, therefore, an applicant is always heard, and, if possible, his suit is promoted. But now it may be stated that such Court has supplanted the Stannaries Court, and transferred the winding-up of Cornish cost-book mines from Truro to Lincoln's Inn.

The foregoing observations have received illustration from two cases,

decided in Chancery during the present week—i.e., the *THURLOW MESSER MINING COMPANY* and the *WHEAL ANNE MINING COMPANY*. In the former case, the Court assumed jurisdiction, because the Stannaries had no power either to compel contribution or to stop legal proceedings against a shareholder pending the proceedings for winding-up—reasons, certainly; and in the latter case, it interfered upon a set of facts, of which the following is a concise summary. The petitioners, taken sued at law, and it was subsequently resolved by the shareholders meeting assembled that the working of the mine should be abandoned, a call made. The MASTER OF THE ROLLS, who adjudicated upon the expressed an opinion that the concern could not be properly wound-up in the Stannaries Court, and suggested that the petitioner should action and pay the call; which he had no sooner done than he was by a contributory, who, it was alleged, had paid more than his share whereupon his Honour ordered that the company should be as wound-up in his Court, and not in the Stannaries, unless the petitioner should indemnify the petitioner against the existing or any other action, take upon himself their defence in the petitioner's name, and also pay the costs of the petition and of the actions out of the company's funds. These decisions the Court of Stannaries will be rarely troubled to defend cost-book companies: it is clear that it lost its birthright in passing of the above statute, and that its jurisdiction is overwhelmed absorbed in the vortex of the Court of Chancery, but whether or not benefit to mining capitalists remains to be shown.

As it has been stated in the House of Commons that it is the intention of the Government to introduce a bill for consolidating the laws relating to limited liability companies, it would be well for all concerned in development of industrial and commercial undertakings, with capital; to consider the circumstances which have prevented the joint-stock companies laws from becoming so effective as anticipated, to point out to those who will have to legislate upon the subject amendments seem calculated to induce the more extended application of individual wealth to promote the general good of the country. To this result we think but few amendments in the existing law are necessary to give editors of limited companies greater protection, and to investors with an amount of confidence which at present they certainly possess; the capitalist must have a guarantee that the business of the company proposes to undertake shall not be commenced with an adequate capital, the creditor must have some means of ascertaining financial position of the company, and it must be so provided that of winding-up being necessary there shall remain at least some amount to meet the claims of the creditors, without calling upon the shareholders contributions beyond the amount subscribed for. In addition to this public must have a guarantee that the directors are pecuniarily interested in the company, which is not always the case at present.

With respect to affording the capitalist the requisite protection in earlier existence of the company, a clause is required prohibiting the company from appropriating any of the funds subscribed until an amount to three-fourths of the proposed nominal capital has been subscribed. The object and effect of such a provision would be to prevent promoters of companies, which few would support, expending the money belonging to those who have been thoughtless enough to subscribe to a worthless scheme, as is often the case under the existing law. The might be made responsible for the return of the money deposited, in event of the three-fourths not being subscribed; and, to compensate for the trouble and responsibility incurred, they might be permitted to Act, in case of the repayment being necessary, to charge the deposit 2½ per cent. upon the amount deposited. As a rule, capitalists would side this tax far more than compensated by the additional security afforded.

To provide protection to creditors would not be more difficult, if it is probable that to give creditors the power of inspecting the trade would be objected to, and objectionable. But it might be provided once at least in every month every limited company shall supply a list of the said company with a statement brought up to within seven days of the date of issue, showing the number of shares subscribed for, the amount received in respect of shares; the gross amount owing by the company, the gross amount owing to the company, distinguishing paid and doubtful debts; and the amount of cash at bankers. This would give the creditors much protection, yet would disclose none of the company's trade secrets. Should there be any great variation in either items, calculated to affect the position of the company, an explanatory would remove the difficulty.

In case of winding-up, which with such provisions as have been mentioned would be much less frequent than at present, much additional would be ensured by providing that not more than three-fourths of the nominal amount of each share shall be called for until the winding-up of the company has been decided upon, and that no part of such nominal capital shall be called, even by the liquidators, without the sanction of the Court. A somewhat similar scheme was advocated some time since by Mr. THOMAS HUGH MARKHAM, M.A., barrister-at-law, of the Inner Temple, in his excellent little work, "The Shareholder's Guide;" but we think that circumstances which have since occurred render some trifling modifications of the original plan necessary.

Lastly, as to the directors having a pecuniary interest (a point which may appear unimportant to those who suppose that directors have no pecuniary interest at stake), something must be done to let the public know that the directors have contributed to the company's funds, present, it too often happens that directors are given by the company the qualification necessary to entitle them to a seat at the board, not only so, but are also given a legal guarantee that they shall not be responsible. It is by this means that men of good commercial repute are secured as directors of public companies; and whilst the law as it will be, but too often, by this means only.

We have upon several previous occasions referred to the necessity of the general use of guide-rods and safety-cages in the shafts of collieries, and when the Coal Mine Inspection Act now in force was before Parliament the opinion both of the Government Inspectors and of the colliery owners was unanimous that these provisions were absolutely necessary to secure the safety of the workmen; yet, to avoid the outlay of a large sum of money, the owners of mines worked without guide-rods brought such influence as secured the modification of the general rule proposed to such an extent that the use of guide-rods was made optional, and the masters were only compelled to provide a sufficient cover over the shaft when required to do so by the Inspector when persons are being raised or lowered. The result of so inadequate a provision being made is that in Mr. WYNNIE's district, where more shafts without guides are in use than in any other, the deaths in shafts are considerably more numerous than those where guides are the rule and not the exception. The Colliery Hartley will, without doubt, cause the sinking of two shafts to be compulsory, and very properly so; yet the fact must not be lost sight of, although the deaths from the use of single shafts attract more attention, cause a single accident frequently results in the sacrifice of many men, and aggregate loss of life within a given period is far greater from the employment of guide-rods and safety-cages than from the use of single shafts.

The compulsory use, then, of guide-rods and safety-cages in the shafts of collieries as the compulsory sinking of two shafts, and we trust that the present session will not be permitted to pass by without the requisite amendments of the Act for the Regulation and Inspection of Mines being made. It is to be regretted that even the present very inadequate provisions measures are not taken, though a single fine for neglect frequently more than the total expense of the work required to be done, and that of which was given in the case of an information laid by Mr. WYNNIE against Mr. THOMAS SPENCER, manager of the Old Park Colliery, where Mr. SPENCER was fined 5l. and costs for not providing a guide-rods cage, and another 5l. and costs for not fencing an air-shaft. Mr. SPENCER admitted the charges, but complained that the present law was such that all the liability to punishment for offences of this description fell upon the masters, while the men, the real offenders, remained unpunished; we think, however, that this is rather a curious gratulation than complaint, for it must be admitted that the present law is a penniless banksman, or taking the last 5s. from a poor engine-driver, the shape of a fine, is far less likely to cause a fence to be provided, or to be covered, than making the principal of the colliery pay the cost of neglect. In legislating it can only be fairly assumed that the master, the master, the inference being that if he do not he will be liable, yet there are too many of the more careless coal-owners who are ever ready to do all that the servants recommend; and that the

ment has treated with the Ougrée blast-furnaces for the supply of 6000 tons, while another contract for 10,000 tons, to be delivered within the year, has been concluded with a Charleroi establishment, which works for exportation. The stock at Liège will thus be sensibly diminished, and prices will have a tendency to harden. The makers of brass-plate goods at Charleroi have held a meeting, and have decided on advancing the price of their wares about 4s. per 100 kilogrammes (220 lbs.)

THE ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLO-

A company was some time since formed for working the slate quarries of Caumont-l'Eventé, in the department of Calvados. The capital raised was 16,000*l.*, which has been applied to the purchase of land, preliminary works and constructions, and materials for working the quarries; and now, after having passed through the usual provisional period of trials and errors, the company is about to begin the actual working of the slate in the outlay. Further capital is, nevertheless, considered necessary to give a full development to the undertaking, and 16,000*l.* more is now being subscribed for. The slates obtained are stated to be of excellent quality, and may be had in inexhaustible

The coal trade in Belgium and the North of France is stated to be in rather a stagnant condition. In the Mons district several companies have reduced their rates of extraction; for instance, the Hornu-et-Waimes Company has just stopped the working of its third pit, in which several hundred men have been employed. There are abundant indications that the state of French commerce at present bears a close analogy to that of England; the railway traffic is now falling off, the great industrial centres are depressed, and stagnation is the order of the day. Hence the diminished demand for coal.

The projected railway from Amiens to Rouen, which is regarded with much interest by local owners, will, it is expected, be now carried out, the Minister of Public Works, on being pressed by the Prefect of the Seine-Inférieure, representatives of Rouen, and the committee of colliery owners formed in the Pas-de-Calais, having declared that the question shall be settled in a few days. The Northern of France Railway Company is also stated to be convinced of the probability of its securing a large increase of traffic when connected with Rouen by a direct route, independent of the lines already constructed; and it is, therefore, disposed to apply itself in earnest to the construction of the new line.

It is affirmed—although the statement must at present be received under reserve—that the works connected with the piercing of Mont Cenis are stopped on one side, in consequence of the discovery of a coal mine of great richness, and of its being desired, before going further, to adopt precautions against an explosion which might follow the presence of gas. This is rather a strange statement, because it is believed that, by the system of ventilation adopted in the tunnelling works, the quantity of fire-damp likely to proceed from the cutting of a mass of coal is small. As regards the progress of the works, previous to the 1st of January, 1860, the date, 800 men have been engaged on the tunnel, the total length of the tunnel proposed being no less than 7 miles 1568 yards, of which 1 mile 128 yards had been actually pierced at the date of a recent report—1222 yards on the Modane and 666 on the Bardonnèche side. The greater progress on the Bardonnèche side is due to the employment of gigantic machines, designed by M. Sommeiller, the engineer-in-chief, but not yet brought into full working on the other side.

It appears, from an able official document just issued by the French Minister of Agriculture, Commerce, and Public Works, that the railway receipts of France increased from 16,319,924*fr.* in 1860, to 18,416,042*fr.* in 1861. This result, when present depression had passed away, will doubtless give some impetus to railway construction in France, and

We referred last week to some interesting information collected by M. Petitgand, in regard to the mineral treasures of the south of Spain. We have not yet exhausted the valuable details which M. Petitgand has made available; but, space failing for the present, we must select another opportunity of recurring to the subject.

Under all circumstances, it is conducive to the longevity as well as to the safety of boilers to raise the temperature of the feed water before its admission as nearly to the

boilers to raise the temperature of the feed water before its admission as nearly to that of the steam as possible, as a partial remedy for the danger of injury to the boiler by the admission of one of the boilers under the inspection of this association, which is shown in the following illustration of the mischief that arises from contraction of plates consequent on the sudden introduction of cold water. The boiler in question, which was of Cornish construction and fired underneath, having been blown out at the end of the week, cold water was let into it, in order to save time in cooling, when a considerable leak was discovered at the bottom, and on examination one of the transverse seams was found to have cracked through the line of rivets for a considerable distance. In externally-fired boilers, if the boiler is cooled by the admission of cold water, it is quite possible for the plates at the bottom to be raised to a high temperature, and the result of this is shown in the following illustration. It will be seen that internally-fired boilers are far less liable to this, since the temperature of the brickwork beneath them is never raised to the same extent as it is in the first flue of the externally-fired boiler; in addition to which, should a seam rent occur at the bottom of a Cornish boiler the strain upon it is reduced, not only on account of the diminished area of steam-pressure acting upon the ends, but also by the additional power of resistance afforded by the metal of the flues themselves, so that while a seam rent in the first flue of an externally-fired boiler is a serious injury, in that of the cylindrical externally-fired boiler it may result, as in the instance shown in the following illustration, so that well that these points of comparison should be clearly brought out, since the system of external firing is not without its strong partizans, but it must be seen from the above that a boiler internally fired, as well as internally fired, loses nothing by the contrast either with a boiler of plain cylindrical construction, or with others externally fired.

GEOLOGISTS' ASSOCIATION.—At the ordinary monthly meeting, on Monday (Prof. Tennant, F.G.S., President, in the chair), a highly interesting paper "On the Fossil Remains of Vertebrate Animals" was read, by Mr. B. Waterhouse Hawkins, F.S.S., F.G.S., &c. In order to show the certainty with which the palaeontologist can decide upon the form, nature, and habits of animals known only to us by their fossil remains, and to prove the confidence which may be placed in the conclusions arrived at by careful research amongst the various formations of the palaeozoic and later geological periods, Mr. Hawkins prefaced his discourse with a brief though very able outline of comparative anatomy, an outline from which we have no hesitation in stating a general audience could derive a more satisfactory knowledge of the science than from any volume that has been written upon the subject. The various systems, nervous, arterial, osseous, &c., being well explained, the lecturer proceeded to describe the mode adopted by the palaeontologist in restoring the form of vertebrate animals of the Wealden series, and the facility with which the restoration was effected when careful research was aided by an adequate knowledge of comparative anatomy. To render the subject thoroughly intelligible to his audience Mr. Hawkins detailed the course he had pursued in the restoration of the *Iguanodon*, a copy of which forms so attractive a feature amongst the extinct animals at the Crystal Palace. The value of Mr. Hensted's discovery in his "*Iguanodon quarry*" was pointed out, and the great assistance he had received from Dr. Mantell, Prof. Owen, and others, was acknowledged, the result of the combined aid given him being to enable him to produce a more perfect representation of the creature, and to give single complete skeletons of a few inches of the arch comprising the upper jaws. It was thus the question horn or no horn, undecided; yet, from a small specimen, supposed to represent the corresponding portion of the skeleton of a small *Iguanodon*, Mr. Hawkins believes he has justified in the course he has taken in furnishing the animal with a diminished horny excrescence. In the discussion which followed, Mr. Rymer Jones referred to the fact that a specimen, supposed to be an *Iguanodon*, had been found with apparently three toes only, and suggested the advisability of Mr. Hawkins trying the effect of amputation upon his patients at the Crystal Palace, but although Mr. Hawkins was acquainted with the individual Mr. Jones alluded to, and although Prof. Owen had also pointed out the possibility of such a result, the lecturer could not be prevailed upon to consent to resort to so desperate a remedy without further proof than it must be done; if this proof were given him, he would amputate his surplus toes as willingly as if they were merely corns. The lecture was listened to throughout with marked attention, and at the conclusion it was unanimously voted that the special thanks of the association should be given to Mr. Hawkins for his very instructive and entertaining lecture.

REPORT FROM NORTHUMBERLAND AND DURHAM.

MARCH 6.—There is no change to notice in the general trade of the district, the Coal and Iron Trades still continuing sluggish; but the weather having changed from mild and warm to cold and wintry, has rather improved the tone of the coal trade, and some good orders have been received lately by Tyne houses for manufactured iron, chiefly rails; still the demand for this kind of iron is far from being satisfactory, and at many of the larger works heavy stocks are held, and many of those are working short time in consequence. A meeting of delegates from the various collieries of Northumberland and Durham was again held in Newcastle, on Saturday, the main question discussed being the formation of a Permanent Relief Fund: it was resolved to confine the cases to be relieved by this fund to fatal accidents, and to those by which miners might be permanently disabled; and it was recommended that men contribute 1d. each, and boys under 18 years of age, 6d. per week for the purposes of the fund. It was also resolved to co-operate with all British miners, but if the general body of miners object, then the men of Northumberland and Durham proceed alone. It was also resolved to co-operate with the coal trade of Newcastle, and that a deputation be appointed to arrange matters with the coal trade at the earliest opportunity. The deputation appointed were Messrs. J. Howie, D. Cole, T. Weatherly, A. Blyth, and J. Lethhead.

The water at the Gosforth Colliery has been stopped by the tubing put in, but it has accumulated to some extent in the workings, and has risen 8 fathoms up the shaft, so that some time must elapse before the pit can again be cleared by the engines. At the Hartley Pit all operations have ceased; the pumps have been brought out, and the water in the pit has risen above the Yard seam, where the bodies were found after the late accident. There is no probability of an attempt being made to resume the workings of the colliery. From the official returns it appears that 202 men and boys were killed in the mine, and 5 by the falling of the cage, making a total sacrifice of 207 lives. Two inquests were held at Crumlington, on Tuesday, before Mr. S. Reed, coroner. One related to the death of John Barnes, who was killed by a fall of coal whilst working at Crumlington Colliery; and the other to the death of Oswald Simm, 65 years of age, who was killed through being knocked down and bruised by a set of waggon wheels on a incline in Crumlington West Pit. In both instances the juries returned a verdict of "Accidental Death." The new tunnelling machine, noticed last week, was tried on Saturday; but this trial, like all previous ones, proved highly unsatisfactory, as the machine scarcely got fully into motion until a break took place, one of the wheels giving way. Further trials are, however, to be made shortly.

A general meeting of the members of the Northern Institute of Mining Engineers is to be held to-day, when a paper will be read by Mr. G. B. Forster, "On the Recent Accidents at Hartley Pit." This important subject will, therefore, be discussed, and much interest will, no doubt, be attached to it.

THE RIGHT TO WORK COAL IN THE COUNTY OF DURHAM.—A very important case was opened at the Durham Assizes on Wednesday, before Mr. Justice Mellor, in which eminent men in the coal trade, like Mr. T. E. Forster, Mr. Nicholas Wood, and Mr. Matthias Dunn, were summoned as witnesses. It related entirely to the right, founded on custom, to work out the whole of the coal without leaving pillars to support the surface, and without making compensation to the owners of the soil. The case was entitled *Blackett v. Bradley* and others, the plaintiff being a farmer near Hamsterley, and the defendants being the lessees of Evenwood and Butterknowle Collieries under Ecclesiastical Commissioners. It seems from the statement of Mr. Manisty, Q.C., for the plaintiff, that the farm once formed part of a common of which the Bishop of Durham was lord of the manor, and which was enclosed in 1758 by Act of Parliament. The Ecclesiastical Commissioners now represented the interests formerly belonging to the Bishop of Durham, and they contended that they had a right to work out all the coals without leaving any support whatever. As occupiers of the mines under the land in question, the defendants admitted that they had taken away the coals and left down pillars to support the surface, and that they had been doing so for a long time. But they were met with difficulty, and a horse that was ploughing in a field fell and was killed. There were two seams of coal under the land, and the question was whether the tenants of the Ecclesiastical Commissioners had a right to set up the custom and work the coal in this way. According to the Act of Parliament, the commoners of Wolsingham, in seeking legislation, were animated by a desire to improve the land and render it subject to cultivation. The 26th section provided that the Bishop of Durham and his successors should hold and enjoy all mines and quarries under the common without let or interruption, and that, too, without any ground rent or other payment for doing so. Mr. Manisty contended that the lord of the manor should enjoy everything which belonged to the mines as distinct from the soil; and it was provided that if any person sustained damage in their allotments reference should be had to two justices, who should have power to assess the damages. The Bishop and his lessees had a right to work the

mines, but they could not destroy the land—they must leave reasonable support, so that the tenants both of land and coal might enjoy equal rights and existence. The third plea for the defence was to the effect that from time immemorial up to the passing of the Act the Bishop and his successors had been accustomed to win and work the mines under the common without leaving any support, and without paying any satisfaction for any injury that might be done, and that at the time of the passing of the Act they had done the same. The set up in addition, a plea that the lands were in the common pains of Durham, and that from time immemorial the Bishop had enjoyed the same pains of power and authority, and it was the custom to work out coal without leaving any coal as support to the ceiling, or making compensation for injury. This, said Mr. Manisty, was a startling fact, that the Ecclesiastical Commissioners now sought through out the great county of Durham to set up a custom of immemorial existence to the effect that they had a right to go under every gentleman's estate in the county where they had coal, and let it down and destroy it. They had heard of some customs which extended to a township, and they had heard of some customs which extended to a manor, but they had now set up a custom extending over a county of the magnitude of Durham. If this could be done in the township of Lyncock and Softerley, and in the chapelry of Hamrodley, why should it be done over 7000 acres, it might be multiplied by tens and hundreds, and it would extend over very nearly the whole of the county. This course, so said Mr. Manisty, gentlemen should look at their title deeds.—The Judge.—They might let down the whole county. (A laugh).—Mr. James, Q.C. (for the defendants): Only put it upon a little lower level my lord. (Laughter).—Mr. Manisty said cases had been tried and damages obtained for injuries done by the taking away of pillars; but here the defendants said they had a right to take away the coal without any compensation at all. They had grown bolder and bolder by degrees. When the action was first brought the plaintiff was met by only the plea of custom, which was a bad plea in point of law. At this stage the learned Judge interposed, and asked whether, as it was probable the case would come before a superior court, it would be better to have a special case carefully stated. After a brief consultation the learned Judge said that it was agreed that this course should be adopted. The case of Summerson v. Bradley followed the same course as the first case. The defendants, who were the same as in the last action, had put down the coke oven on the plaintiff's land, and claimed the right to do so to any extent they thought proper, upon the same ground as in the previous case—one of custom. His lordship thought this was quite a novel question. There might be a right to win and work coal, but whether they could establish a right to build manufactories wherever they liked was quite a different matter.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE

MARCH 6.—The dulness which has hung over the Iron Trade still continues, and there is no hope for improvement so long as the original causes for depression exists. All departments of the iron trade are exceedingly inactive, except those engaged in the manufacture of railway ironwork and plates for shipbuilding. The increasing railways, both home and foreign, and the consumption necessary to keep pace with wear and tear, has hitherto given a degree of activity to this part of the trade which would not otherwise have been felt. The disposition of all leading men to encourage iron shipbuilding appears also to have been a factor upon the iron trade, in the increased demand which it has occasioned for plates. In Liverpool, and other ports, iron shipbuilding is going on with great energy, one firm alone, that of Messrs. Thomas Vernon and Son, having orders for building ten iron vessels, with an aggregate burden of 10,000 tons, whilst all other shipbuilders are quite full of engagements. With regard to orders, we have little to report.

MILKERY VENTILATION.—At the Royal Institution, on Friday evening.

ROBERT WILLIAMSON exhibited a model illustrative of his Improved
of Colliery Ventilation. The model is divided into three com-
parts, but all worked as one mine by one pair of shafts. The first
a new system of working adapted for very fiery mines, called the
stall working," by which each stall is separated from its neigh-
bour by a wall of coal, so that, if an explosion should happen in one, it cannot commu-
nicate with the next, although it might be filled with an equally foul atmosphere. The
component of the model shows the method suggested by Mr. Williamson of
to his improved plan the ventilation of a "panel working" on the Buddle sys-
The third component, a similar alteration of the long wall system of ventila-
The model is ingenious inasmuch as it shows the currents of air by the agency of
smoke, and appeared (so to speak) to be each panel (and the air currents com-
are subdivided into eight) being drained of its foul air without interfering with
any portion of the working; while fresh air, uncontaminated by passing any other
working or waste, is supplied to the coal face where the hewers work. The most
secondary effect is produced when, the model mine being filled with smoke, the
it is suddenly admitted, and immediately the air is seen in motion in every part,
the foul air is rapidly cleared of its cloudy atmosphere. The improvement in this
of ventilation is in the method by which the fresh air is distributed, so that an
the atmosphere is very nearly an impossibility. It is assumed that a good supply
can be readily obtained in a colliery by means of two shafts, worked by fan, fur-
reclaim-jet. From these two shafts two wind-ways are carried by every part of
the mine, which are called respectively the main upcast and the main down-
cast-air-ways; the former should communicate with the upcast shaft by means of
a drift (if a furnace is used to produce the current of air). This upcast air-
way is fitted by headings fitted with regulators, with every working through the
goaf, if any exist, so that the goaf is first drained of its foul atmosphere, then
the fresh air works takes its place, and fresh air from the downcast air-way is sup-
plied to the coal face through the branch roadways, open at all times to the downcast
air-traps, and consequently no trappers, are required by this system, excepting
the air-traps or doors are required to be requisite to pass into the upcast air-way, to which
it may be no general access. This is only to be used as the main drainage of
the mine. By means of the regulators in this system, the supply of fresh air can be so
regulated as to alter the state of the atmosphere or the number of the main shaft
of the mine may require. To show the advantage of this system of ventilation, it
may be taken a glance at three of the proximate causes of that explosive condition
of the mine, which leads to those casualties we so frequently have to deplore.
The first, the gas driven out in nearly regular quantities from the coal seam; second, the
gas driven out by fall of roof, or by change in the atmospheric pres-
sure; third, those sudden eruptions of gas, known as "blowers." In all pro-
bability it is a combination of the above causes which lead to the condition of the
mine that must exist before an explosion occurs. Thus, suppose a current of air
several thousand yards, according to the plan at present followed in our colli-
eries, becomes contaminated by the gaseous emanations of the coal seams, till, meet-
ing a current of ready made fire-damp from a goaf, or a suddenly set free from the
working of the coal, it reaches that pitch of foulness which, if it
exposed light, will inevitably result in an explosion. Without entering into
the details, it is plain that, if a current of air, which is so contaminated, is
not extinguished, that an explosion could not occur unless the foul atmosphere be pre-
served, and the system of ventilation now under consideration, the foul air is
drawn from the goaf, and the danger from that source is at once removed; a cur-
rent of fresh air is drawn into the goaf, and any gas set free during the working
of the hewer; an unusual discharge might be overcome by opening the
drift, and thus throwing in a greater quantity of fresh air, which might be
the cause of an explosion. Then, the chances of an explosion are considerably reduced, and, in
the case of an explosion, the fatal consequences will be reduced to the minimum, the
explosion being generally less than the explosion, not being drawn through the
main air-way. It is claimed that no finding its way into the goaf, and thence into the
atmosphere in the mine than at present, with the same quantity of air
drawn down the shafts, and that a greater quantity of air can be passed through
within a given time than at present, owing to the fact of a great quantity of
the air, indeed, there does not appear to be any new method of fire-drain-
age, but, by the restricted size of the air-passages preventing the fire-drain-
age, it is claimed that, labour in collieries should not be as free from danger as
now (by the dilute of traps), are the advantages claimed for the improved

[illegible]

WICKLOW COPPER MINE COMPANY (LIMITED).

At an EXTRAORDINARY GENERAL MEETING of the proprietors of this company, held at their office, 43, Dame-street, on Tuesday, the 25th inst.,

JOHN BARTON, Esq., in the chair,
The following resolutions were adopted:—
Moved by JOSEPH HONE, Jun., Esq., seconded by OCTAVIUS O'BRIEN, Esq.:—
1.—That a shareholders' committee of this company, consisting of Mr. Octavius O'Brien, Mr. Robert O'Brien, Mr. Joseph Hone, Jun., and Mr. John Smith, be and are hereby appointed and empowered to make such investigation, in conjunction with the board, as they may deem necessary, and report thereon in reference to the proposed amalgamation with the Hibernian Mine Company.

2.—That this meeting do stand adjourned to One o'clock P.M., on Tuesday, the 18th March, 1862.
JOHN BARTON, Chairman.
H. A. CRUISE, Sec.
Moved by ROBERT O'BRIEN, Esq., seconded by H. M. QUINN, Esq., and resolved:—
That the thanks of the meeting are due, and are hereby given, to John Barton, Esq., for his courteous conduct in the chair, and to the board of directors for their attention to the interests of the company.
H. A. CRUISE, Sec.
43, Dame-street, Dublin, February 26, 1862.

HIBERNIAN MINE COMPANY.—Notice is hereby given, that a GENERAL MEETING of the Hibernian Mine Company will be HELD at the company's office, No. 5, Dame-street, Dublin, on MONDAY, the 17th March next, at the hour of Twelve o'clock noon, for the purpose of considering a proposition which has been made to the said company to purchase the estate and interest of the Wicklow Copper Mine Company (Limited) in the mines of Ballymurrigh, in the county of Wicklow, and all other the estates, interests, property, and goodwill of the said company, and for the purpose of carrying on the mining and other works now being carried on in said mines.

And further take notice, that in case the company shall determine upon making the said purchase, a resolution will, at said meeting, be proposed to the company, that, pursuant to the provisions of the Acts whereby the company is constituted, the capital stock of the company shall be increased by the issue of so many additional shares of the said company as may be necessary to complete the said purchase, such shares, when issued, to be added to and form part of the capital stock of the company.

EDWARD BARNES,
JOHN BARTON,
CHARLES H. CHAYTOR, } Directors.
WILLIAM HARDMAN,
GEORGE McDOWELL, }

5, Dame-street, Dublin, Feb. 13, 1862.

THE KAPUNDA MINING COMPANY (LIMITED).—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the proprietors will be HELD at the London Tavern, City, on WEDNESDAY, the 12th inst., at Half-past One o'clock P.M., precisely, to consider the propriety of declaring a second dividend in respect of the profits of the year 1860.

The transfer books of the company will be closed from Monday, the 10th, to Thursday, the 13th inst.

By order of the Board, J. D. KENNEDY, Sec.
61, Threadneedle-street, London, March 5, 1862.

LAW LIFE ASSURANCE SOCIETY,

FLEET STREET, LONDON.
ESTABLISHED 1823.

The invested assets of this society exceed £5,000,000; its annual income is £405,000. Up to 31st December, 1861, the society had paid in claims upon death—

Sums assured £1,329,378
Bonuses thereon 1,115,298

Together £2,444,676

The profits are divided every fifth year. All participating policies effected during the present year will, if in force beyond 31st December, 1864, share in the profits to be divided up to that date.

At the divisions of profits hitherto made, reversionary bonuses exceeding £3,500,000 have been added to the several policies.

Prospectuses, forms of proposal, and statement of accounts, may be had on application to the secretary, at the office, Fleet-street, London.

February, 1862. WILLIAM SAMUEL DOWNS, Actuary.

ALBERT AND MEDICAL LIFE ASSURANCE,

7, WATERLOO PLACE, PALL MALL, LONDON, S. W.
ESTABLISHED 1838.

The business of the Medical, Invalid, and General Life Assurance Society having been amalgamated with the Albert Life Assurance Company, the united business will henceforth be carried on under the above title.

Accumulated fund exceeds £500,000
Subscribed capital 447,180
Paid-up capital 137,000
Annual income from life premiums, upwards of 220,000

The new business is now progressing at the rate of more than £25,000 per annum.

From Prof. De Morgan's report upon the last valuation of liabilities (end of 1858), and the statements of accounts, it appeared at that time that the surplus in favour of the Albert business alone, after providing for every liability, was £192,925 2s. 11d.

HENRY WILLIAM SMITH, Actuary.
C. DOUGLAS SINGER, Sec.

THE BERLINER INDUSTRIE-BEFÖRDERUNGS

BANK-VEREIN, established 1860, consisting of several hundred tradesmen and manufacturers, to WILKING TO ACCEPT AGENCIES FOR DIFFERENT ARTICLES SUITABLE FOR PRUSSIA. If parties wish to send goods on consignment, they can receive advances on those goods, if required, by paying usual interest.—For further information and rules of the company, apply to Mr. A. WILHELM, 7, Lower James-street, Golden-square, W.

Berliner Industrie-Beförderung Bank-Verein, Bank, Bullion, and General Commission Agents, Breite Strasse, 30, Berlin.

CREASE'S PATENT EXCAVATING MACHINERY,

FOR SUPERSEDING THE SLOW AND EXPENSIVE USE OF MANUAL LABOUR IN SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to drive through any rock of average hardness at a minimum rate of 1 in. per diem, and to sink shafts at the rate of 2 fms. in three days.

Mr. CREASE will undertake contracts for sinking shafts, driving levels, &c., at an enormous reduction of time and great saving in cost.

Applications to be addressed to Mr. GEORGE T. CURTIS (sole agent), 17, Gracechurch-street, London, E.C.

By providing the power of calculating the time and cost to explore a certain depth and extent of ground, speculation in mining will be assimilated to commercial pursuits, with this unmistakable advantage—that when the ground has been once carefully and judiciously selected, and operations properly and systematically carried out for its development, there would be far less chance of unsatisfactory results than are met with by merchants and manufacturers in the usual routine of their business. As this important invention must beneficially interest the landowners, mine proprietors, merchants, and miners, we opine it will meet with immediate adoption.—*Mining Journal.*

BELL BROTHERS beg to intimate that, having become SOLE

LICENSEES in the United Kingdom of PROF. DEVILLE'S METHOD OF PRODUCING PURE ALUMINIUM, they are now in a POSITION to SUPPLY, from their works here, both this metal and its compound with copper, known under the name of ALUMINIUM BRONZE.—Newcastle-on-Tyne, September, 1860.

RIGHT SCIENCE IN METAL, HOMOGENEOUSLY

IN TRUTH, HYDRODYNAMICALLY PROOF TO MIGHT.

A BROADSIDE FOR THE EXECUTIVE IN WOOD AT THE ADMIRALTY.

JOHN CLARE, Jun., the inventor of metal shipbuilding, on life-preserving principles, was granted Royal Letters Patent, under the Great Seal of Great Britain, the 6th Sep., 1853, for "Improvements in Metal Shipbuilding," from which the *Warrior* and other iron steam frigates have been produced.

As Mr. CLARE's inventions were, at the recommendation of one of the Cabinet Ministers, brought before the British Government on the 31st December, 1853; personally on the 10th June, 1854; models, &c., on the 23d June, 1854; and, by the order of the Admiralty, drawings on the 26th June, 9th and 16th July, 1855, hence, the Executive of the Admiralty being well acquainted with his patents, plans, models, &c., his inventions have resulted solely in bringing about the change in Her Majesty's Royal Navy from wood to iron.

As this must benefit the mineral landed proprietors, ironmasters, iron shipbuilders, &c., also the tax payers of Great Britain, by causing a retrenchment based upon durability, &c., the development of which having engrossed Mr. CLARE's whole attention, and he having spent his time and money in proving to the British Government, through the medium of the Emperor of the French in the Crimean war—and whose letters Mr. CLARE holds for the receipt of the plans of the tortoise-shaped floating batteries which repelled the shot at the Crimea—now finds himself compelled, after petitioning the Lords once and the Commons twice, to take proceedings under recent statutes of petition of right to get justice in a court of law.

As Mr. CLARE's patents have recently lapsed, and his inventions become public property, he now seeks, on loan, pecuniary assistance from the patriotic, philanthropic, scientific, and other interests dependent on the revelation of his knowledge, by divulging all the information his case contains for the better guidance of the House of Commons, with respect to our national defences afloat, and thus publicly afford him an opportunity to place on record the grave oppression and persecution cast upon him and his family for the last nine years, by the Executive of the Admiralty.

As the Right Hon. the Viscount Palmerston, K.G., G.C.B., &c., has recorded his approval of Mr. CLARE's scientific and mechanical capabilities, on the 10th of July, 1859, by endorsing the same with £100, as of Her Majesty's Royal Bounty Fund, such fact is of itself a confirmation that Mr. CLARE, as a public benefactor and man of original inventive talent, has strong claims on the British nation, and that the tax payers of Great Britain are morally bound to see his case publicly fought out in a court of law, as this is the only process left open to Mr. CLARE to obtain his rights. It will take several thousand pounds to carry out this object, as the evidence of numerous scientific gentlemen will be necessary to reveal information, facts, and science that have taken Mr. CLARE himself the last 25 years to learn.

JOHN CLARE, Jun.,
Care of G. W. C. Dean, Esq., 27, New Broad-street, City, London, E.C.

27, New Broad-street, City, London, E.C., May 28, 1861.

DEAR SIR,—The bearer hereof, Mr. JOHN CLARE, Jun., of Liverpool, has a claim upon the Government for infringement of his patents, and also for naval architectural commission in respect of the building of the *Erasmus, Terror, Thunderbolt, Warrior, Black Prince, Resistance, Defence*, &c., and which claim I am now prosecuting by petition of right. The damages are laid at £500,000. From the evidence I have taken, Mr. CLARE is pretty sure of success.

Yours faithfully, G. W. C. DEAN.
Messrs. Messrs. and Co., Lincoln's Inn-fields.

In the Matter of the Petition of Right of JOHN CLARE, Jun., and the OBEY.

No. 6, *Serjeants' Inn*, July 11, 1861.

I have perused numerous documents submitted to me, and I am of opinion that Mr. CLARE is clearly entitled to compensation from the officers of the Crown for wrongs done to him by the infringement of his patents with regard to iron shipbuilding.

Signed, JOHN BEST.

6, *Serjeants' Inn*, Temple, August 13, 1861.

SIR,—I have perused the case submitted to me by your solicitor, with respect to your claim against the Government, prosecuted by your petition of right, and also a portion of the evidence in support of the same, and am of opinion that if such facts are brought clearly before the Court you are certain of success.

To Mr. John CLARE, Jun. I remain, yours faithfully, JOHN BEST.

BY ORDER OF THE NEW RIVER COMPANY.
VALUABLE STEAM-ENGINE, BOILER, PUMPS, and other PLANT, to complete the clearance of the site of the Hampstead-road Reservoir, London, which has been let for building.

MR. JOHN WALLEN is instructed by the directors to SELL BY AUCTION, on the premises, on Tuesday, March 11, at Twelve, in lots, a capital 50-horse-power CONDENSING ENGINE, by Boulton and Watt, of compact, portable, and economical construction, in first-rate working order, with 18 feet fly-wheel; a MARINE BOILER; a QUANTITY OF COPPER AND IRON PIPING, valves and gauges, shafting and pinions, three 7-ft. spur-wheels, pump cranks and rods; a set of three 10-inch force-pumps, with three-throw crank; a 12-inch single force-pump and gear, and other PLANT and TOOLS.
To be viewed two days previously and morning of sale.
Catalogues at the New River Office, Clerkenwell; on the premises; and of Mr. JOHN WALLEN, 68, Old Broad-street, London, E.C.

HAUGHTON CASTLE PAPER MILL.

MR. C. BROUGH WILL SELL BY AUCTION, on Thursday, March 13, at One o'clock precisely, the whole of the VALUABLE MACHINERY, PLANT, and MATERIALS in HAUGHTON CASTLE PAPER MILL, in the county of Northumberland.
The mill is easy of access from the Chollerford station, on the Border Counties Railway.
Catalogues will be ready on the 6th March.
Newcastle-upon-Tyne, Feb. 26, 1862.

WHEEL BRAY MINE, ALTAIRNUN, CORNWALL.

FIRST CLASS MINING MACHINERY AND MATERIALS FOR SALE.

MESSRS. HUXHAM AND SON have been favoured with Instructions to SELL, BY PUBLIC AUCTION, on Tuesday, the 18th day of March, 1862, at Ten for Eleven o'clock in the forenoon, at WHEEL BRAY MINE, in the parish of ALTAIRNUN, CORNWALL, the undermentioned MINING MACHINERY AND MATERIALS, viz.:—
ONE 50 in. cylinder STEAM ENGINE, 10 ft. stroke in the cylinder, and 7½ ft. stroke in the shaft, with TWO BOILERS about 20 tons.

1 30 ft. water-wheel, nearly new, 4 ft. 6 in. diameter.
Several tons of 1 and 1½ in. bucket rods.

1 large drawing machine, upright cage, brasses, &c., complete.
2 crab winches, double and single power.

1 crushing machine complete.
Large quantity of staples and glands.

1 king and queen and other balance bobs.
15, 14, 13, 10, and 8 in. valve plates.

1 8 arm capstan.
11, 9, 8, and 7 in. bucket prongs and forks.

2 horse whims.
About 2 tons of rod pins, pump and door rings.

1 42 ft. shears.
Spanners of every description and size.

230 fms. of 9-16 and 5/8 capstan chain.
4 2½ in. large bolts, flat threaded.

83 15, 12, 10, 9, and 8 in. pumps.
4 ft. and 3 ft. 8 in. whin pulleys.

2 15 and 11 in. H. paces.
Set of shaft rollers.

8 15, 11, 9, 8, and 7 in. doorpieces.
2 sets of shaft tackle and pulleys complete.

7 14, 11, 10, 9, 8, and 7 in. working barrels.
30 fms. of whin rope.

8 15, 11, 10, 9, 8, and 7 in. flat bottom and slaking windroves.
4 whin kibbles.

2 14½ and 11 in. plunger poles.
1 ton of steel borers.

2 14½ and 11 in. stuffing boxes & glands.
6 dozen of pick moulds.

16 rod and pulley stands.
2 jigg machines, hatches, and sieves.

80 fms. of 2 in. rods.
6 treble and single blocks.

1 travelling bob.
2 screw lifting jacks.

19 pairs of 7 and 8 in. faggoted rod plates.
2 9 ft. 2½ wrought-iron lifting screws.

1 pair of 15 in. faggoted rod plates.
3 clintons.

100 fms. of iron and wood stage ladders, a quantity of air pipes, launders, several pieces of pitch pine, memel and Norway rods from 6 to 12 in. square, plank, timber, miners' chests, carpenter's benches, grinding stone, several hundredweights of nails, wheel and hand-saws, shovels, picks, miners' tools, smiths' tools, 2 41 in. bellows, 3 anvils, 2 vices, 1 screw stock, plates and taps, mandril, wrought-iron smiths' horse, a quantity of smiths' tools, new and old iron, sheet lead, &c. Account-house furniture. Seven strong and useful young cart horses, well adapted to draw heavy weights; several sets of shaft and fore horse harness; 3 excellent chest wagons.

The auctioneers can with pleasure highly commend the materials, as they are of first-class quality, and in excellent condition. Whose catalogues may be had after the 12th of March. Luncheon will be provided on the mine at Ten o'clock.

Dated Launceston, March 4, 1862.

In Chancery.

IMPORTANT FREEHOLD AND LEASEHOLD COLLIERIES, SOUTH WALES.

MESSRS. FULLER AND HORSEY are instructed to SELL, BY AUCTION, on Wednesday, March the 26th, 1862, at Twelve o'clock (instead of the 12th March, as previously announced), at the Auction Mart, London, in One Lot, by order of His Honour the Master of the Rolls, and with the concurrence of the mortgagees, the very VALUABLE COLLIERIES and OTHER MINERAL PROPERTIES and SURFACE LANDS, freehold, copyhold, and leasehold, belonging to the

RISCA COAL AND IRON COMPANY.

Situate about 6½ miles from Newport (a safe and commodious port on the 'Ark', near its junction with the Severn), in the county of Monmouth. There is direct railway communication between the works and the docks and wharfs at Newport, the Western Valley line of railway running through the property. Vessels of upwards of 1000 tons burden can enter the docks at Newport, or load along the side of the wharf.

The coal fields comprise a tract containing 1044 acres, held under Lord Tredegar, for an unexpired term of 47 years, at a fixed rent of £757 per annum, and 6d. per ton for fire-clay. A tract containing 19 A. 1 R. 31 P., held by the same tenure, at a royalty of 9d. per ton for coal, and 6d. per ton for ironstone. A tract containing 54 A. 0 R. 6 P., held under Lord Tredegar, for 42 years, from 1828, at a royalty of 10½d. per ton for coal, the minimum rent to be £500 per annum. A tract of 112 A. 1 R. 5 P., freehold; and a tract of 125 A. 1 R. 7 P., copyhold, subject to a trifling quit rent and fine.

The surface lands comprise the RISCA FARM, 138 A. 0 R. 11 P., with manager's house and cottages. BUCK FARM, 73 A. 1 R. 28 P., with lime kilns and cottage, agents' houses, offices, workmen's cottages, &c., held under beneficial leases.

There are four seams or veins of coal, extending over the principal portion of the entire area, of the thickness of 28 ft. in the aggregate, and known as the Rock Vein, the Big Vein, the Black Vein, and the Sun Vein. The Black Vein is the most valuable; it is a first-class steam coal, and has the reputation on the market of being the best coal for exporting to the several foreign coaling stations in warm climates, as it is not injuriously affected by the high temperature. The Royal West India Mail Packet Company have shipped it to their foreign coal depots for upwards of 20 years. The thickness of the seam is 8 ft. 10 in., and the quantity at this time actually raised is at the rate of 80,000 tons per annum. The Rock Vein is a seam of coal of an average thickness of 4 ft. 6 in., and is also used by the Royal West India Mail Company; the quantity now actually raised is at the rate of about 80,000 tons per annum. The Big Vein has never been worked at Risca, but it is ascertained to be well adapted for making coke, or for general manufacturing purposes; the thickness of the seam is 12 ft. The Sun Vein, which also is not now worked, is from 2 ft. 6 in. to 3 ft. in thickness, and has a good roof; it is adapted for a house coal. The general arrangements of the workings are good, many improvements, both in the modes of working and ventilation, having been recently adopted, the result being a material increase in the quantity of coal raised, and a proportionate diminution of the cost of raising. Other improvements, suggested by the Government Inspector and the arbitrator, are in progress.

The PLANT is all in efficient working order, both for winding and pumping, and there are sufficient railway trucks and underground trams for the quantity now being worked.

A contract is now running with the Royal Mail Steam Packet Company for the supply of 100,000 tons of coal per annum, on satisfactory terms, subject to which this sale is made.

Attached to the collieries are FIRE-BRICK WORKS, with the requisite MACHINERY, also STONE QUARRIES and LIME KILNS.

Ironworks could be advantageously introduced, as there is a rich vein of ironstone underlying the seams of coal, and there is limestone in abundance.

There are also SEVENTY-NINE COTTAGES for workmen, residences for clerks and overseen. Suitable offices, and a shop and warehouse, wherein a trade is conducted profitable to the proprietors and of great convenience to the workmen.

The manager's residence and some of the farms are in hand, from which a supply of hay and corn for the horses is obtained. Other farms are let. The total amount of rentals received by the company is £590 6s. per annum.

With the sale of the colliery will be included the company's interest in the large and commodious wharf at Newport, on which are laid three lines of tram rails communicating with the Western Valley Railway, and running down to three loading stages on the river. The yard forms a depot for coals, and there are good offices, some labourers' cottages, and manager's house. Also nine coal sheds in the docks at Southampton, held at a rental of £140 per annum.

Surveys and highly favourable reports have been made by eminent mining engineers. The works may be inspected, and plans and particulars and other information shortly obtained of Messrs. FULTON, SAWTELL, and LIGHTFOOT, solicitors, 23, John-street, Bedford-row; Messrs. CROWDER and MAYNARD, solicitors, Coleman-street; Messrs. CUTLER and TURNER, solicitors, 29, Bedford-square; Messrs. SIMPSON and NORTH, solicitors, Liverpool; Messrs. COLEMAN, TURQUAND, YOUNGS, and Co., Tokenhouse-yard; at the Westgate Hotel, Newport; at the Cardiff Arms, Cardiff; at the principal inns at Bristol and Gloucester; at the Auction Mart; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

GEO. WHITING, Chief Clerk.

MALLEABLE IRONWORKS AND FORGES, AND OTHER

SUBJECTS, NEAR ALDRIDGE, FOR SALE.—There will be exposed to PUBLIC SALE, within the Faculty Hall Sale Room, Glasgow, on Wednesday, the 2d day of April next, at Two o'clock afternoon, if not previously disposed of by private bargain.

1.—THE GARTNESS MALLEABLE IRONWORKS, situated in the vicinity of the town of Aldridge, and about twelve miles distant from Glasgow.

The works contain EIGHTEEN PUDDLING and FOUR HEATING FURNACES, with suitable MACHINERY, FITTINGS, and APPLIANCES, and there are in connection with them eight smiths' shops; fitting shop, with small engine for driving turning lathe, and hammer for breaking felling; pig-iron sheds, iron racks, offices and store-houses; manager's house, consisting of eleven apartments; house of two stories, occupied as a store, with cellarage, office; storekeeper's dwelling-house, 49 workmen's houses; stables to accommodate 18 horses, harness-room, cart and straw sheds, granary and boiler-house.

These works, when in operation, turned out from 160 to 180 tons of malleable iron weekly.

There are also about TWENTY ACRES of LAND, in a high state of cultivation.

2.—THE GARTNESS AND MOFFAT FORGES, situated in the immediate vicinity of the rolling mills, before described; they are three in number, and are worked partly by steam, partly by water-power. In connection with them are smiths' shop, weighing machine and weighing-house, office and store-houses, and 9 workmen's houses.

The forges are in good working condition, and are capable of making shafts of 10 to 12 tons weight and under.

The locality in which these works are situated is very favourable for obtaining supplies of iron and coal on the best terms, and for communication with the market.

3.—STEADING OF GROUND at Rawyards, near Aldridge, leased by the Monkland Iron and Steel Company, from Mr. Gavin Clark, of Rawyards, together with the workmen's houses erected thereon. There are twenty-nine separate dwellings, and the feu duty is £11 8s. 8d. per annum.

4.—STEADING OF GROUND in Johnston-street, Aldridge, held in feu from the proprietor of Wester Moffat, together with the workmen's houses erected thereon. There are seven separate dwellings, and the yearly feu duty is £3 9s. 10d.

For further particulars apply to M'CLELLAND, SON, and SMITH, accountants, 103, St. Vincent-street; MORRISON and ANDERSON, writers, St. Vincent-place; or to BANNA-TYNE and KIRKWOOD, writers, West George-street, Glasgow, in whose hands are the title deeds and articles of roup.

THE HUNDON FREEHOLD MINERAL ESTATE, with possession, comprising acres, near CAISTON, LINCOLNSHIRE, with an EXTENSIVE and VALUABLE BED OF IRONSTONE.

MR. ROBINS is instructed to SELL, BY AUCTION, at Mart, London, on Tuesday, the 26th March, at Twelve for One o'clock (instead of the 12th March, as previously made by private contract), THE FREEHOLD MANOR FARM OF HUNDON, comprising 181 acres of arable, meadow, pasture, and woodland, with good farm-house, farm-buildings, labourers' cottages.

A VALUABLE and EXTENSIVE BED OF IRONSTONE, from 12 to 14 ft. in thickness, is under the greater part of the estate, which from analysis is found to be of extremely rich quality.

A short railway, of three miles, of easy formation, is only required to bring the iron into direct communication by rail and sea with France, and with the Ironworks of the castle and Durham, and, by the new railway making from Barnetby to Doncaster, the West Country.

Hundon is within one mile from Caistor, eight from Brigg, and about twenty from Holland and the port of Great Grimsby. Stone for burning excellent lime is abundant on the estate. Immediate possession may be had.

Full particulars, with plan and copy of report of an eminent mineral engineer and chemical analysis, may be had of ROBERT OWTON, Esq., solicitor, Brigg, Lincolnshire; Messrs. C. and H. BELL, solicitors, 36, Bedford-row, London, W.C.; at the Auction Mart, E.C.; and of Mr. ROBINS, auctioneer and estate agent, No. 5, Waterloo-place, London, S.W., who will forward particulars by post on application.

PEREMPTORY SALE, BY ORDER OF THE MORTGAGEE.

THE LANIHARRY HEMATITE IRON ORE MINE, GLAMORGANSHIRE. First-rate investment in a valuable and important mining estate, in working order, producing improved royalties, and an improved sleeping rent.

MESSRS. EDWIN FOX AND BOUSFIELD WILL OFFER FOR UNRESERVED SALE, at the Mart, on Wednesday, March 26, at One o'clock, a VALUABLE MINERAL PROPERTY, of about FIVE HUNDRED acres, comprising the LANIHARRY HEMATITE IRON ORE MINE, adjoining the most important station on the South Wales Railway, about eleven miles from the shipping port of Cardiff, and nine from Bridgend, most advantageously situated in the coal fields and mineral district of the county of Glamorgan, having railway communication, by means of the South Wales and Ely Valley Railways, with the ironworks of South Wales, those of Staffordshire, and the best shipping ports of the triel. It is on this property that the brown hematite iron ore and coal have been discovered.

The quality of the hematite is excellent, and recent analyses prove it to contain 55 to 60 per cent. of iron, lying close to the surface.

Competent authorities consider that there is sufficient hematite on this estate to supply 3000 tons per week for upwards of 200 years.

Held for a term of 40 years, from the 25th day of December, 1856, subject to a rent of £300 per annum, and moderate royalties.

The property has been leased to the Laniharry Hematite Iron Ore Company (Limited) for the term under which the same is held, at greatly improved royalties, and at a sleeping rent of £1050 for the first year, £1500 for the second year, and £2100 for the third and every subsequent year. The company are now working the mine, and the ore. The company have mortgaged their lease for £2500. The right to this mine is also sold.

May be viewed; and particulars, with several eminent mining engineers' reports, showing at the Mart; the hotels and inns in the principal towns in the neighbourhood of Messrs. ROGUE and GOVER, solicitors, 33, Old Jewry; and at Messrs. EDWIN FOX and BOUSFIELD's office, 41, Coleman-street, City.

PEREMPTORY SALE, BY ORDER OF THE MORTGAGEE.

VALUABLE FREEHOLD MINERAL ESTATE, IN THE COUNTY OF WORCESTER.

MESSRS. EDWIN FOX AND BOUSFIELD are instructed to OFFER FOR ABSOLUTE SALE, BY AUCTION, at the Mart, on Wednesday, March 26, at

VENTILATION OF MINES.

ELLIS LEVER,
WEST GORTON WORKS, MANCHESTER,
SOLE MANUFACTURER OF THE
IMPROVED SAFETY BRATTICE,
FOR
AIR-COURSES, FLY-DOORS, AND STOPPINGS,
IN THE
WORKINGS OF FIERY COLLIERIES

ELLIS LEVER DESIRES TO INFORM THE OWNERS AND
MANAGERS OF COLLIERIES in all parts of the kingdom that THEY CAN
OBTAIN AT A DAY'S NOTICE with a STOCK of AIR-PROOF BRATTICE
OF CLOTH OF ANY WIDTH, and in VARIOUS QUALITIES, from SIXPENCE
PER SQUARE YARD.

ELLIS LEVER'S FLEXIBLE TUBING, INVENTED AND MANUFACTURED
BY HIMSELF, is now USED for the PURPOSE of VENTILATION in SINKING
AND EXPLORING DRIFTS. This TUBING is AIR-PROOF and WATER-
PROOF, and can be made any size, from 6 inches diameter to 3 feet diameter, in unlimited
length. Every tube is fitted internally with hoops, 12 inches apart, which prevent their
collapse. Prices and further information will be sent on application to
ELLIS LEVER, MANCHESTER.

By the Governments of Great Britain, Spain, Denmark, Russia, Brazil, East
and West Indies.

ASTON'S PATENT BOILER FLUID,
FOR REMOVING AND PREVENTING
INCORUSTATION IN STEAM BOILERS, LAND AND MARINE.
F. S. EASTON AND G. SPRINGFIELD,
Patentees and Sole Manufacturers,
37, 38, and 39, WAPPING WALL, LONDON, E.,
of their Agents in the principal towns of Great Britain and the Colonies.

SAY OFFICE AND LABORATORIES,
29, GREAT ST. HELEN'S, and FORD ROAD, OLD FORD.
PARTNERSHIP between MITCHELL and RICKARD having EXPIRED,
BUSINESS will in future be CONDUCTED, as hitherto, under the PERSONAL
SUPERINTENDENCE of W. T. RICKARD, F.C.S. (Assayer of the Precious Metals,
special authority of the Chilian Government), who will pay all outstanding debts
of the late firm.

TENT CYCLOPS IRON CEMENT, for STEAM JOINTS
PISTON-RODS, BOILERS, GAS WORKS, &c. Price, and other information
may be had on application to the manufacturer, R. ROSS, 9, Side, Newcastle-
upon-Tyne.

TENT BITUMINIZED GAS, WATER, AND DRAINAGE
PIPES.—These PIPES POSSESS all the PROPERTIES NECESSARY for the
PURPOSES of GAS and WATER, and also for DRAINAGE PURPOSES—viz.,
STRENGTH, GREAT DURABILITY, and PERFECT IMMOBILITY.
They are not affected by frost, like metal pipes. They are proved
to stand a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are
light, and considerably cheaper than iron pipes. They are made
in lengths, and the joints are simple and inexpensive. These pipes have been in
use in Spain, Italy nearly three years, where the demand for them is very
great. The opinions of the press on a public test at the Houses of Parliament, before a
number of engineers and other scientific gentlemen, may be had, with further par-
ticulars of the company, on application to Mr. ALAN YOUNG, 14a, Cannon-
street, E.C., where sample pipes may be obtained for trial.

TENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE
MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL
FUSE, RICKFORD, SMITH DAVEY, and PRYOR who beg to inform Mer-
chants, Agents, Railway Contractors, and all persons engaged in Blasting Operations,
the purpose of protecting the public in the use of a genuine article, the PATENT
FUSE has now a thread wrought into its centre, which, being patent right, in-
distinguishable from all imitations, and ensures the continuity of the gunpowder.
It is protected by a Second Patent, is manufactured by greatly improved ma-
chinery, and may be had of any length and size, and adapted to every climate.
RICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

TOWN'S PATENT SAFETY CAGE AND HOIST.
CHANGE OF LICENSE FEE WILL SHORTLY TAKE PLACE,
from £1 to £6 and upwards.
[See Mining Journal of March 1.]
Apply to the patentee, ROBERT ATTON, 3, Fettes-row, Edinburgh.

STIER'S PATENT CHAIN PUMP,
APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY
ADAPTED TO ALL KINDS OF MINES, DRAINAGE, WELLS, MARINE,
&c.

STIER begs to call the attention of proprietors of mines, engineers, architects,
and the public in general, to his new pump, the cheapest and most efficient ever
of public notice. The principle of this new pump is simple and effective, and
is so arranged that accidental breakage is impossible. It occupies less space
than any other kind of pump in use, does not interfere with the working of the shafts,
and is lightness with a degree of durability almost imperishable. By means of this
machine water can be raised economically from wells of any depth; it can be
driven by steam-engine or any other motive power, by quick or slow motion.
The statement presents some of the results obtained by this hydraulic machine,
demonstrated by use.

It raises from 90 to 92 per cent. of the motive power.
Price and expense of installation is 75 per cent. less than the usual pumps em-
ployed for mining purposes.
It occupies a very small space.
It raises water from any depth with the same facility and economy.
It raises with the water, and without the slightest injury to the apparatus sand
&c., and every object of a smaller diameter than its tube.
It is easily removed, and requires no cleaning or attention.
The pump can be seen daily at work, at Wharf Concord Mine, South Sydneyham,
near Tavistock; and a shipping pump at Woodside Graving Dock Company,
Birkenhead, near Liverpool.

STIER, sole manufacturer, will CONTRACT to ERECT his PATENT PUMP
DOWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will
LICENSES to manufacturers, mining proprietors and others, for the USE
OF THE PUMP.
STIER, 19, MANCHESTER BUILDINGS, WESTMINSTER, LONDON.
Oct. 10, 1859. Hours from Ten till Four. J. U. BASTIER, C.E.

L. AND SONS, 17 and 18, CORNHILL, respectfully
Solicit a VISIT to their magnificent ESTABLISHMENT. The ground floor
is particularly devoted to the display of FINE GOLD JEWELLERY, GOLD and
WATCHES, and FINE GOLD CHAINS.

EVER PLATE DEPARTMENT is in the gallery of the building, and consists
of a magnificent show-rooms is displayed a large and beautiful stock of ARGENT-
SILVER, the manufacture of which has stood the test of 20 years' experience.
And some have also fitted up a separate show-room for the display of DRAWING
ROOM CLOCKS of the most exquisite designs. Books containing draw-
ings may be had upon application.
SARL AND SONS, 17 and 18, CORNHILL, LONDON

INVENTORS.—ALL INTENDING PATENTEES should
OBTAIN THE PRINTED INFORMATION regarding PATENTS, their COST,
MODE OF PROCEDURE to be adopted, ISSUED GRATIS by the GENERAL
COMPANY (LIMITED), 71, FLEET STREET, LONDON.
R. MARSDEN LATHAM, Sec.

ESTIMATES IN BRITISH MINES.—
MURCHISON publishes a QUARTERLY REVIEW OF BRITISH MINING,
the same time the POSITION and PROSPECTS of the MINES at the end of
the DIVIDENDS PAID, &c.; price One Shilling. RELIABLE INFOR-
MATION will at any time be given by Mr. MURCHISON, either per-
sonally, at his Office, No. 117, BISHOPSGATE-STREET WITHIN, LONDON,
or of the above publication can be obtained.

OF THE PRESS on Mr. MURCHISON'S WORK ON BRITISH MINING,
PUBLISHED in 1856.
The new work on British Mines is attracting a great deal of attention,
and a very useful publication, and calculated to considerably improve the
home mineral industry. —*Mining Journal*.
It will be found extremely valuable. —*Observer*.
The guide to investors. —*Herapath*.
The book takes small views upon the important subject of his book, and has
a small sum, within the reach of all persons contemplating making invest-
ment shares that information which should prevent rash speculation and un-
timely loss of capital in mines. —*Morning Herald*.
It is of interest to persons having capital employed, or who may be desirous of in-
vesting. —*Morning Chronicle*.
The book is a valuable publication which has come under our notice, and contains
more than any other on the subject of which it treats. —*Derby Telegraph*.
The book contains information on mining investments will find no better and safer in-
formation. —*Leeds Times*.
Persons who wish to invest capital in British Mines, this work is of the first import-
ance. —*Leeds Express*.
Persons who wish to invest, or intend to invest, in mines, would do well to consult this
work. —*Leeds Express*.
Persons who wish to invest their capital in mining speculations will find this work a
guide. —*Warwick Advertiser*.
It is a more useful publication, or one more to be depended on, cannot be found.
The book is a valuable publication, and one more to be depended on, cannot be found.
Persons who wish to invest in mining affairs, or who are desirous of becoming speculators should
carefully peruse the work. —*Monmouth Beacon*.
The book is a valuable publication, and one more to be depended on, cannot be found.
Persons who wish to invest their capital in mining speculations will find this work a
guide. —*Warwick Advertiser*.
It is a more useful publication, or one more to be depended on, cannot be found.
The book is a valuable publication, and one more to be depended on, cannot be found.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.



MESSRS. ALLCHIN AND SON, PATENTEES and
MANUFACTURERS of an IMPROVED STEAM SUPERHEATING APPA-
RATUS, SUITABLE for PORTABLE, LOCOMOTIVE, STATIONARY, and MARINE
BOILERS. Can be applied to old as well as new, EFFECTING a SAVING in FUEL
of THIRTY-FIVE to FORTY PER CENT., and a surprising INCREASE in the
POWER of the ENGINE, likewise a REDUCTION of TWENTY-FIVE to THIRTY
PER CENT. in FUEL WATER.

TO BE SOLD, a bargain, a 10 horse BEAM CONDENSING
ENGINE and BOILER, in good working condition. Price, £250. The room is
required, as a larger engine has been supplied. For particulars, apply to ALLCHIN and
Son, Globe Engine Works, Northampton.

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO.,
MIDLAND WORKS, BIRMINGHAM.
BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS.
IN STOCK—FOR SALE OR HIRE.

RAILWAY WAGONS.—WILLIAM HARRISON AND CAMM
HAVE ON HAND RAILWAY, COAL, COKE, AND MINERAL WAGONS,
ON SALE OR HIRE,
AT THE ROTHERHAM WAGON WORKS, MASBRO'.

THE BIRMINGHAM WAGON COMPANY (LIMITED) HAS
RAILWAY WAGONS FOR HIRE.
Apply to the SECRETARY, 3, Newhall-street, Birmingham.

THE RAILWAY CARRIAGE COMPANY,
OLDBURY, NEAR BIRMINGHAM.
MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND
IRONWORK.
NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK
FOR SALE OR HIRE.
LONDON OFFICES.—No. 1, MOORGATE.

TO RAILWAY COMPANIES, CONTRACTORS, COAL AND
IRONMASTERS, WAGON BUILDERS, &c.—THE BEST and CHEAPEST
LOCOMOTIVE GREASE is MANUFACTURED by BUCKNELL, CHESTERFIELD.
Only one quality made. A trial is solicited. References given to some of the principal
coal owners in the district. Sample casks from 2 cwt. upwards.
Chesterfield, February 6, 1862.

NOTICE TO RAILWAY COMPANIES.—A RAILWAY
SIGNAL of a NOVEL DESCRIPTION (patented) is NOW IN OPERATION
on the MANCHESTER and ALTRINCHAM RAILWAY, which GIVES NOTICE of
the APPROACH of a TRAIN HALF A MILE OFF, and, if required, can announce it at
any other given distance. It is novel and simple in its construction, not a single com-
plicated movement in it, and when laid down will not require repairs for years. A model
may be seen at the Mining Journal office, 26, Fleet-street, London, in the course of
a week, and a gentleman will shortly call on the different railway companies centering in
the metropolis to give any required explanations.

JOB TAYLOR AND CO., SWAN FOUNDRY,
OLDBURY, NEAR BIRMINGHAM.
SOLE PROPRIETORS of HINTON'S PATENT CUPOLA, which CONSUMES
FIFTY PER CENT. LESS COKE than any cupola yet invented. MAKERS of ALL
KINDS of MACHINERY connected with the GRINDING and TEMPERING
of COPEL, RUSSELL, AND HOWELL'S PATENT CAST STEEL TUBES.
TILES, DRAIN PIPES, &c. Also, of HIGH and LOW PRESSURE STEAM EN-
GINES of any dimensions, and of GENERAL MACHINERY.

GEORGE WHITEHOUSE (late James Colley and Sons),
MANUFACTURERS of BOLSTER PINS and BOXES, BOLTS and NUTS,
WOOD SCREWS, LIFTING JACKS, RAILWAY SPIKES, RIVETS, and EVERY
DESCRIPTION of RAILWAY FASTENINGS.
HOPE WORKS, WEST BROMWICH. (ESTABLISHED 1815.)

SHORTTRIDGE, HOWELL, AND CO., HARTFORD STEEL
WORKS, SHEFFIELD, SOLE MANUFACTURERS of HOWELL'S PATENT
HOMOGENEOUS METAL PLATES for BOILERS, LOCOMOTIVE FIRE BOXES,
and TUBES, COMBINING the STRENGTH of STEEL with the MALLEABILITY
of COPPER. RUSSELL AND HOWELL'S PATENT CAST STEEL TUBES.
McCONNELL'S PATENT HOLLOW RAILWAY AXLES.—For prices and terms, apply
to SHORTTRIDGE, HOWELL, and Co., Hartford Steel Works, Sheffield; or Messrs.
HARVEY and Co., 12, Haymarket, London.

CORNISH BORER STEEL.—UPWARDS of ONE HUNDRED
AND SIXTY MINES are SUPPLIED with this STEEL, and the DEMAND
for it is RAPIDLY INCREASING.—For terms, apply to R. MURPHY and Co., Forest
Steel Works, near Coleford, Gloucestershire.

CYANOGEN STEEL, CAST STEEL, SHEAR STEEL, and
IMPROVED FOREST L BLISTER STEEL, supplied to order by ROBERT
MURPHY and Co., Forest Steel Works, near Coleford, Gloucestershire.
Address to the Works, Coleford.

TO COAL OWNERS AND COKE BURNERS.
MACKWORTH'S PATENT COAL WASHER,
OR PURIFIER.—THIS MACHINE will EXTRACT the SHALE and ALL
HEAVY IMPURITIES from SMALL COAL at a COST of TWOPENCE PER TON.
—For particulars and references, apply to the makers, A. and T. FRY, Temple-gate Works,
Bristol; or to Mr. JOS. RIDER, Basinghall-street, Leeds.

IMPORTANT TO MINERS, &c.—MR. THOMAS SHUTT,
OLD BRIDGE STREET, KEIGHLEY, YORKSHIRE, begs to inform miners,
&c., that, after having had 16 years' experience in the manufacture of all kinds of greases,
he is now ENABLED to FURNISH MINERS, &c., with an IMPROVED COMPO-
SITION for WIRE and HEMP ROPES, at a GREAT REDUCTION in PRICE, by the
use of which a SAVING of SEVENTY PER CENT. will be realised in the WEAR
and TEAR of wire and hemp ropes. Price, 2s. per cwt. Orders punctually attended
to, and all orders and communications to be addressed to THOMAS SHUTT, grease man-
ufacturer, Old Bridge-street, Keighley, Yorkshire.

WIRE-ROPE TESTING.
PUBLIC TEST OF A. J. HUTCHINGS AND CO'S PATENT
WIRE-ROPE at LIVERPOOL, FEBRUARY 27, 1861.
[From the Daily Post of March 1, 1861.]

On Wednesday, the 27th of February, a series of EXPERIMENTS on WIRE-ROPE
took place at the Corporation Testing Works, King's Dock. The specimens tested were
manufactured by the well-known firm of A. J. HUTCHINGS and Co., of Millwall, London,
the Contractors to the Lords of the Admiralty and various foreign Governments, the
character of whose rope is so well known in this country, as well as all parts of the Con-
tinent. Capt. Ducraft, of H.M.S. *Hastings*, and a number of other gentlemen connected
with shipping, were present to witness the experiments, all of which were considered
highly satisfactory, and in every respect sustained the reputation of the manufacturers.
The following are the results of the experiments:—

An 8 in. rope bore 70 tons WITHOUT BREAKING.
Circumference and breaking strain.

Size.	Hutchings and Co's wire- rope for ships' rigging. Tested Feb. 27, 1861.	Newall and Co's. Test of Oct. 29, 1860.	Garnock, Bibby, and Co's Test, Oct. 29, 1860.
2 1/2	5 tons 15 cwt.	—	—
3 1/2	11 " 14 "	7 tons 15 cwt.	8 tons 16 cwt.
4 1/2	16 " 10 "	—	—
5 1/2	22 " 8 "	—	18 " 5 "
6 1/2	28 " 10 "	16 " 10 "	—
7 1/2	34 " 10 "	18 " 15 "	—
8 1/2	37 " 15 "	—	26 " 10 "

THE ABOVE ROPES ARE FOR COLLIERY USE.

N.B.—The 2 1/2, 3 1/2, and 4 in. ropes were the actual sizes tested. The remaining sizes
and strains are comparative.
The above tests certified by Mr. McDonald the Superintendent of the Corporation
Testing Works, Liverpool.

TEST OF WIRE-ROPE AT LIVERPOOL.—
The value of Messrs. Hutchings' statement, relative to a test of their manufac-
ture, will be properly estimated when it is known that the ropes were brought down from
London specially prepared for the purpose, and not taken promiscuously from their stock,
as the samples tested in October were.

The following, extracted from the *Mining Journal* of November 10, 1860, shows the
relative strength of the different makers' ropes on that occasion. The samples tested
were privately purchased some time previously, and spliced for testing by Newall and
Co's workmen. The test took place in the presence of representatives from the manu-
facturers, reporters for the press, and a large number of gentlemen connected with mining
and shipping in Liverpool:—

SIZE OF ROPE TESTED.

Size.	Garnock, Bibby, and Co's broke at	8 tons 5 cwt.	8 tons 16 cwt.
R. S. Newall and Co's	16 " 10 "	—	7 " 15 "
A. J. Hutchings and Co's	11 " 10 "	—	5 " 0 "

Messrs. Hutchings' samples were from 1-16 to 3-16 over size.

From this it will be seen that the breaking point of Garnock, Bibby, and Co's ropes
was on the average 13 per cent. over the guaranteed strain, while those of Hutchings
and Co. were 30 per cent. below it.

GARNOCK, BIBBY, AND CO.,
SWAN HEMP AND WIRE-ROPE WORKS, CHAPEL STREET, LIVERPOOL.

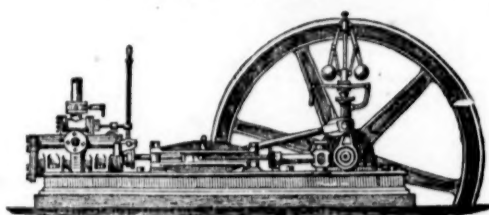
Flat and round wire-ropes of steel and charcoal iron for mines, inclines, &c., of first
quality wire, and highest standard of strength.

PATENT LEVER BREAK, FOR RAILWAY WAGONS,
doing away with the objectionable break rack. Can be APPLIED to EXISTING
STOCK at a TRIFLING EXPENSE. Royalty moderate. Models can be seen at
No. 1, Moorgate, London, E.C.; and the breaks in action at the works of the Railway
Carriage Company; at the Peterboro' Station, on the Eastern Counties Railway; the
Nugby Station, London and North-Western Railway; the Cardiff Docks Station, Taff
Valley Railway; and at the Works, Oldbury, near Birmingham, where all communications
are requested to be sent.

BEDFORD IRONWORKS, TAVISTOCK.

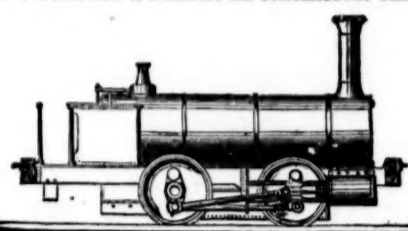
NICHOLLS, WILLIAMS, AND CO. have generally a GOOD
STOCK of SECOND-HAND MINING MATERIALS FOR SALE. They also
MANUFACTURE STEAM ENGINES of every description on the newest principle.
Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts
of the world. Steam boilers and chains warranted of the best description.

MESSRS. E. PAGE AND CO.,
VICTORIA WORKS, BEDFORD,
AND LAURENCE POUNTNEY PLACE, CANNON STREET, LONDON
MANUFACTURERS OF



HIGH PRESSURE STEAM ENGINES,
from 2 1/2 to 30 horse power, and upwards, adapted for MINING and GENERAL
PURPOSES. Prices and full particulars sent on application.

LOCOMOTIVE, STATIONARY, AND PORTABLE
STEAM ENGINES.
CONTRACTORS' WAGONS, DOBBIN CARTS, BARROWS, and
EVERY DESCRIPTION of RAILWAY and CONTRACTORS' PLANT, &c.



CHEAP LOCOMOTIVES for MINERAL RAILWAYS and OTHER PURPOSES.
HUGHES and MARCH ENGINEERS and MANUFACTURERS of RAILWAY
PLANT, and EVERY KIND of MACHINERY,
FALCON WORKS, LOUGHBOROUGH.

These engines are exceedingly useful in all cases where heavy loads have to be carried
up steep inclines. They are fitted in the best style, and with every requisite. Messrs.
HUGHES and MARCH, Falcon Works, Loughborough; or E. EDWARDS, Esq., C.E., 13,
Beaufort-buildings, Strand, London.
MAKERS of the IMPROVED HORSE ENGINE, by which full power of the horses
is given out without friction. It is applicable in all cases where horse power is required.
SECOND HAND PORTABLE STEAM ENGINES.

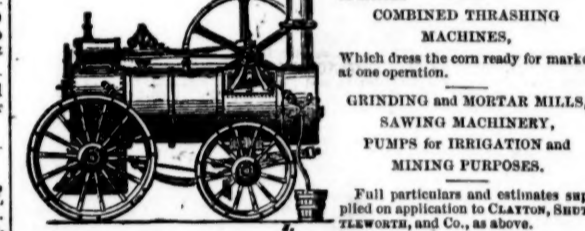
CLAYTON, SHUTTLEWORTH, AND CO.,
AGRICULTURAL AND GENERAL ENGINEERS,
LINCOLN, and 78, LOMBARD STREET, LONDON.

MANUFACTURERS OF
PORTABLE and FIXED STEAM
ENGINES,
Which are adapted for every purpose
to which steam-power can be applied.
When intended for winding they are
fitted with reversing link motion and
requisite gearing. The portable engines
are easy of removal from place to place,
and may be set to work immediately
on arrival.

COMBINED THRASHING
MACHINES,
Which dress the corn ready for market
at one operation.

GRINDING and MORTAR MILLS,
SAWING MACHINERY,
PUMPS for IRRIGATION and
MINING PURPOSES.

Full particulars and estimates sup-
plied on application to CLAYTON, SHUT-
TLEWORTH, and Co., as above.



HALL AND WELLS, PATENTEES AND
MANUFACTURERS of SUBMARINE TELEGRAPH CABLES, CABLES,
&c.—TELEGRAPH CONDUCTORS INSULATED WITH INDIA RUBBER at £5 per
mile and upwards, PARTICULARLY ADAPTED for MINING PURPOSES. Further
particulars as to price of cores, cables, &c., can be had on application at 60, Alderman-
bury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E.
Copper wire covered with silk, cotton, or any other material, to order.

PATENT PLUMBAGO CRUCIBLES.—
The crucibles manufactured by the PATENT PLUMBAGO CRUCIBLE COM-
PANY have been in successful use for many years by some of the
largest ENGINEERS, BRASSFOUNDERS, and RE-
FINERS in this country and abroad. The great SUPERIO-
RITY of these melting pots consists in their capability of melt-
ing on the average 35 to 40 pourings of the most difficult metals,
and a still greater number of the ordinary character, some of
them having actually been worked for the EXTRAORDINARY
number of 96 heats. They are unaffected by change of tempera-
ture, never crack, and become heated much more rapidly than
any other kind, thereby SAVING more than FIFTY PER
CENT. in fuel, time, and labour. Lasting as they do for such a
length of time, the saving of waste is also very considerable.
The company have recently introduced a CRUCIBLE SPECI-
ALLY ADAPTED for MALLEABLE IRON MELTING, the
average working of which has proved to be about seven days.

CRUCIBLES for STEEL MELTING are also made, which save nearly 1 1/2 ton of
fuel to every ton of steel fused.

The Patent Plumbago Crucible Company likewise manufacture and import clay cru-
cibles, muffles, portable furnaces, &c., all descriptions of fire-standing goods,
and every requisite for the assayer and dentist.

For lists, testimonials, &c., apply to the Patent Plumbago Crucible Company, Battersea,
Works, London, S.W.

AUSTRALIA AND NEW ZEALAND
WHITE STAR EX-ROYAL MAIL CLIPPERS,
SAILING FROM
LIVERPOOL to MELBOURNE on the 1st and 20th of every month.

Passengers holding Victoria passage warrants will be forwarded to Melbourne by
these vessels.

Ship. Destination. Register. Burthen. To sail.

Ship.	Destination.	Register.	Burthen.	To sail.
MISTRESS OF THE SEAS	Melbourne	1677	5000	March 20.
GREAT AUSTRALIA	Melbourne	1500	4500	April 20.
ELIZABETH A. BRIGHT	Melbourne	1446	4300	May 20.

The splendid new clipper ship, *Mistress of the Seas*, will be dispatched for Melbourne
on the 30th March, with passengers and cargo. This fine vessel has been constructed
expressly for the Australian passenger trade, by the well-known builders of the *White
Star, Morning Light*, and other celebrated clippers. She has only just made her maiden
voyage from St. John's, which was, however, sufficient to test her sailing qualities, and
prove her to be a fast and superior vessel. Her saloon accommodation is extensive and
complete, and the apartments for second cabin and other classes of passengers cannot be
excelled.

For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-
street, Liverpool; or to GRINDLAY and Co., 124, Bishopsgate-street, and 55, Parlia-
ment-street; or to STRONG, FEAVER, and Co., 116, Fenchurch-street, London.
Wilson's Australian and New Zealand hand-books sent for two stamps.

STEAM FROM LIVERPOOL TO NEW YORK.—
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THE MINING SHARE LIST.

DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid
4000	Bedford United (copper), Tavistock.	2 6 0	6 0	..	12 11 6	0 3 0-Dec. 1861
1200	Boscan (tin), St. Just.	20 10 0	60	..	35 10 0	1 5 0-Dec. 1861
200	Botalack (tin, copper), St. Just.	1 5 0	250	..	445 10 0	2 10 0-Feb. 1862
1000	Carn Brea (copper, tin), Illogan.	15 0 0	72 1/2	..	271 10 0	3 0 0-Jan. 1862
200	Cefn Cwm Brwyno (lead), Cardiganshire.	33 0 0	33	..	9 0 0	4 0 0-April, 1861
2450	Cook's Kitchen (copper), Illogan.	17 0 0	31 1/2	30 31 1/2	1 0 0	7 0 0-Jan. 1862
256	Copper Hill (copper), Redruth.	48 0 0	110	..	4 10 0	2 0 0-Jan. 1862
12000	Copper Miners of England.	100 0 0	25	..	1 per cent.	Half-yrly.
350000	Ditto (ditto, Cleckley).	8 0 0	30	23 30	6 12 0	0 7 0-Jan. 1862
1055	Graddock Moor (copper), St. Cleer.	5 0 0	5	..	0 10 0	0 10 0-Jan. 1862
512	Graddock Moor (copper), St. Cleer.	7 10 0	20	..	6 18 0	0 15 0-Jan. 1862
128	Cwm Erwin (lead), Cardiganshire.	60 0 0	200	..	235 10 0	4 0 0-Jan. 1862
200	Dewent Mines (all-lead), Durham.	300 0 0	180	..	142 0 0	5 0 0-June, 1861
1024	Devon Gt. Con. (cop.), Tavistock [S.E.]	1 0 0	420	410 420	782 0 0	8 0 0-Jan. 1862
358	Dolcoath (copper, tin), Camborne.	128 17 6	550	..	657 10 0	9 0 0-Feb. 1862
3000	Dyffryn (lead), Wales.	12 6 0	10	..	0 5 0	2 0 0-Nov. 1861
512	East Basset (cop.), Redruth [S.E.]	29 10 0	30	45 47 1/2	95 0 0	3 0 0-Jan. 1862
6144	East Carnant (copper), St. Cleer [S.E.]	2 14 6	31	33 1/2 34	2 5 0	0 15 0-Jan. 1862
200	East Darnley (lead), Cardiganshire.	32 0 0	45	..	79 10 0	1 0 0-Dec. 1861
1400	Earn Mining Co. (lead), Derbyshire.	5 0 0	..	..	20 3 4	0 10 0-May, 1861
2800	Foxdale (id.) [L.] [2500 £25 pd., 240 £20 pd.]	35	..	..	..	..
6000	Frank Mills (lead), Devon.	3 18 6	45	..	0 14 0	0 3 0-Sept. 1861
1000	Great South Tolgus [S.E.], Redruth.	0 14 6	4 1/2	3 1/2 4	7 18 6	0 5 0-Dec. 1861
1798	Great Wheal Fortune, Breage.	18 6 0	16	15 1/2 16 1/2	1 10 0	0 10 0-Jan. 1862
6908	Great Wh. Ver (tin, cop.), Helston [S.E.]	40 0 0	7	6 1/2	1 19 6	0 7 0-Sept. 1861
10240	Gunnels Lake (copper), near Liskeard [S.E.]	8 10 0	37	3 1/2 3 3/4	0 3 0	0 1 6-Mar. 1862
1024	Haroldston (id.), near Liskeard [S.E.]	8 10 0	37	3 1/2 3 3/4	18 0 0	0 15 0-Feb. 1862
1000	Hibernian Mine Company.	92 6 2	27 1/2	..	7 10 0	0 15 0-Sept. 1861
400	Lisburne (lead), Cardiganshire, Wales.	18 15 0	110	..	373 10 0	2 0 0-Dec. 1861
9000	Marke Valley (copper), Cardigan.	4 10 6	10 1/2	10 1/2	1 12 0	0 6 0-Jan. 1862
1000	Miners Mining Co. [L.], (id.), Wrexham	25 0 0	170	..	81 13 0	3 10 0-Jan. 1862
20000	Mining Co. of Ireland (cop., lead, coal)	7 0 0	18 1/2	..	14 7 11	0 7 0-Dec. 1861
640	Mold Pleasant (lead), Mold.	4 0 0	35	..	17 10 7	1 0 0-Jan. 1862
6000	New Birch Tor and Viller Conols.	6 0 0	35	..	0 3 4	0 15 0-Sept. 1861
6000	North Gribbler, Redruth.	2 3 6	5 1/2	..	0 7 6	0 5 0-Dec. 1861
6000	Oradell (lead), Flintshire.	0 0 8	1 1/2	..	0 10 0	0 10 0-Mar. 1861
6400	Par Conols (cop.), St. Blazey [S.E.]	1 2 6	8 1/2	..	36 9 6	0 5 0-Nov. 1861
200	Parys Mines (copper), Anglesey [L.]	50 0 0	..	..	12 10 0	2 10 0-Sept. 1861
1772	Pobberro (tin), St. Agnes.	..	5	..	6 19 6	0 10 0-Dec. 1861
1120	Providence (tin), Uny Lelant [S.E.]	10 6 7	42 1/2	41 42	63 0 0	1 5 0-Feb. 1862
16	Rhoscorrh (cop.), St. Agnes.	50 0 0	..	..	350 0 0	100 0 0-Quarterly.
812	South Carnon (cop.), St. Agnes.	322 1/2	317 1/2 322 1/2	..	104 10 0	1 0 0-Jan. 1862
812	South Carnon (cop.), St. Agnes.	322 1/2	317 1/2 322 1/2	..	104 10 0	1 0 0-Jan. 1862
406	South Wheal Frances, Illogan [S.E.]	18 18 6	105	97 1/2 102 1/2	358 5 0	1 0 0-Jan. 1862
280	Sparrow Moor (tin, copper), St. Just.	31 17 9	52 1/2	..	9 15 0	1 0 0-June, 1861
940	St. Ives Conols (tin, cop.), St. Ives.	5 0 0	25	..	484 10 0	0 10 0-Nov. 1861
9600	Tamar Con. (all-ld.), Beemton [S.E.]	4 10 0	1 1/2	29 31 1/2	5 6 0	0 2 6-Jan. 1862
6000	Tincroft (cop., tin), Pool, Illogan [S.E.]	9 0 0	..	..	11 3 6	0 5 0-Feb. 1862
200	Trumpet Conols (tin), near Helston.	87 10 0	100	..	63 0 0	1 0 0-Aug. 1861
4200	Vigra and Clogau (copper), Llanelli.	1 15 0	25	..	12 12 0	0 15 0-Jan. 1862
1024	Wendron Conols (tin), Illogan [S.E.]	11 13 0	13 1/2	13 1/2	8 15 0	0 15 0-Sept. 1861
6000	West Basset (copper), Illogan [S.E.]	1 10 0	13 1/2	..	22 0 0	0 5 0-Sept. 1861
200	West Burton Gill (lead), Yorkshire.	50 0 0	..	..	14 10 0	3 0 0-June, 1861
1024	West Carnon (cop.), Liskeard [S.E.]	5 0 0	42	39 1/2 40 1/2	100 11 3	1 0 0-Feb. 1862
6400	West Fowey Conols (tin and copper).	7 10 0	4	..	0 17 0	0 3 0-Jan. 1862
400	W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0	285	265 275	338 0 0	8 0 0-Feb. 1862
512	Wheal Basset (copper), Illogan [S.E.]	5 2 6	100	100 105	579 10 0	3 0 0-Feb. 1862
256	Wheal Buller (cop.), Redruth [S.E.]	5 0 0	70	62 1/2 67 1/2	929 0 0	2 0 0-Mar. 1861
2900	Wheal Clifton Amalgamated (cop.), Gwennap.	5 0 0	32	31 32	20 12 0	0 12 0-Feb. 1862
2000	Wheal Falmouth and Superphos.	2 0 0	..	..	26 10 0	0 10 0-Feb. 1861
512	Wheal Falmouth (copper), Devon.	50 0 0	90	..	2400 10 0	5 0 0-Feb. 1861
512	Wheal Jane (silver-lead), Kea.	3 10 0	18	..	12 10 0	1 0 0-Jan. 1862
4800	Wheal Luccott (lead), St. Ives.	2 10 8	34	3 1/2	1 12 0	0 4 0-Oct. 1861
800	Wheal Margaret (tin), Uny Lel. [S.E.]	4 4 4	43 44	..	71 5 0	1 5 0-Feb. 1862
1024	Wheal Mary Ann (id.), Menheniot [S.E.]	8 0 0	15 1/2	15 1/2	54 17 6	0 10 0-Dec. 1861
80	Wheal Owles, St. Just, Cornwall.	70 0 0	800	..	293 3 0	7 10 0-Feb. 1862
396	Wheal Seton (copper), Camborne.	58 10 0	125	122 124	134 13 0	1 10 0-Feb. 1862
1040	Wheal Trelawny (all-ld.), Liskeard [S.E.]	4 17 0	17 1/2	18 1/2	43 17 6	2 0 0-Feb. 1862
8000	Wicklow (copper), [L.], Wicklow.	8 0 0	51	53 1/2 54	43 17 6	2 0 0-Oct. 1861

* Dividends paid every two months. † Dividends paid every three months.

MINES WITH DIVIDENDS IN ABEYANCE.

700	Aberlady (silver-lead), Merioneth.	1 10 0	30	..	0 10 0	0 10 0-Mar. 1860
5120	Altred Conols (cop.), Phillack [S.E.]	3 3 6	1 1/2	..	29 3 0	0 2 6-April, 1863
2048	Carnyorth (tin), St. Just.	3 15 0	13 1/2	..	0 19 6	0 2 0-Sept. 1860
2500	Central Miners (lead) [L.]	6 15 0	5 1/2	..	0 4 0	0 4 0-Sept. 1860
6000	Challenger United, Ferrantun.	2 8 0	1	..	0 13 0	0 1 6-Sept. 1861
256	Condurow (cop., tin), Camborne.	20 0 0	70	60 62 1/2	85 0 0	2 0 0-June, 1862
4076	Devon and Cornwall (copper).	5 11 3	6	..	0 10 0	0 2 6-Feb. 1862
672	Ding Dong (tin), Guival.	39 2 6	15	..	16 7 6	1 0 0-Mar. 1862
2900	Drake Wh. (tin, cop.), Calcutta.	1 13 0	1 1/2	1 1/2	0 13 6	0 15 0-Sept. 1861
2348	East Falmouth (all-ld.), Kenwyn, Kea.	3 5 0	1 1/2	..	0 7 6	0 2 6-Jan. 1862
138	East Pool (tin, cop.), Pool, Illogan.	24 5 0	260	..	305 0 0	2 10 0-Aug. 1863
2048	East Wheal Lovell (tin), Wendron.	2 13 6	..	..	0 5 0	0 5 0-July, 1860
4940	Fowey Conols (copper), Twardroath.	4 0 0	5	..	41 9 3	0 2 6-June, 1860
486	Gribbler and St. Aubyn (cop.) [S.E.]	49 10 0	17 1/2	14 16	23 0 0	1 0 0-July, 1860
119	Great Work (tin), Gernoe.	100 0 0	110	..	221 10 0	7 10 0-Feb. 1862
6000	Hington Down Con. (cop.), Cals. [S.E.]	4 19 0	2 1/2	2 1/2 2 3/4	2 16 0	0 2 6-Nov. 1863
5000	Kelly Bray (lead, copper), Callington.	4 15 0	3 1/2	3 1/2	0 6 0	0 2 0-June, 1860
20	Lacey Mining Company, Isle of Man.	100 0 0	200	..	1490 0 0	0 50 0-Sept. 1862
160	Levant (copper, tin), St. Just.	2 10 0	95	..	1091 0 0	5 0 0-May, 1860
6000	Mendips Hills (lead) [L.], Somerset.	3 15 0	1 1/2	..	2 1 0	0 2 6-May, 1860
470	Newtownards Mining Co., Co. Down.	50 0 0	35	..	56 0 0	1 0 0-Sept. 1863
6000	North Great Work, Breage.	1 3 0	1 1/2	..	0 2 0	0 2 0-May, 1860
612	Rosewarne United (cop., tin), Gwennap.	19 6 4	18	32 34	33 10 0	1 0 0-Sept. 1860
12000	Sidderidge Con. (cop.), Whitechurch [S.E.]	0 16 0	11 1/2	10 1/2	0 10 0	0 2 6-July, 1862
128	South Crinias (copper), St. Austell.	19 0 0	285	..	60 0 0	0 20 0-June, 1863
20000	St. Day United (tin and cop.), Redruth.	0 0 0	2 1/2	..	0 13 6	0 15 0-Sept. 1861
6000	Tolvadden (copper), Marazion.	0 0 0	2 1 1/2	1 1/2	0 13 6	0 3 0-Mar. 1862
872	Trevelyan Conols (tin), St. Ives.	11 10 0	13	..	7 0 0	0 10 0-Sept. 1860
20000	Valley of Towy (lead), Carmarthen [S.E.]	0 13 6	1 1/2	..	0 5 0	0 10 0-July, 1863
256	West Damsel (copper), Gwennap.	38 10 0	60	..	45 0 0	0 10 0-May, 1862
1024	West Providence (tin), St. Erth.	3 15 0	3 1/2	..	33 19 0	0 10 0-April, 1862
4096	Wheal Edward (cop.), Calstock [S.E.]	7 6 0	2 1/2	2 1/2	0 5 0	0 5 0-Mar. 1863
1024	Wheal Grylls (tin), Ferrantun.	2 4 0	15 1/2	14 15	1 12 0	0 7 6-Nov. 1863
1024	Wheal Killy (tin), Uny Lelant [S.E.]	1 7 2	11 1/2	11 1/2 11 3/4	0 18 6	0 2 0-July, 1860
8000	Wheal Killy (tin), St. Agnes.	2 7 0	3 1/2	..	0 10 0	0 10 0-July, 1860
1024	Wheal Margery (tin, copper).	16 13 0	8	..	0 10 0	0 10 0-May, 1860
100	Wheal Mary (tin), Lelant.	36 2 6	440	..	280 5 0	7 0 0-June, 1860
1024	Wheal Tremayne (tin, cop.), Gwennap.	13 2 6	5	..	10 2 6	0 7 6-Jan. 1864

FOREIGN MINES.

2464	Burra Burra (cop.), South Australia.	5 0 0	116	..	280 0 0	5 0 0-Dec. 1861
12000	Cobre Copper Co. (cop.), Cuba [S.E.]	40 0 0	32 1/2	32 1/2 33	98 12 0	1 0 0-Jan. 1862
10000	Copio Mining Company, Chile [S.E.]	16 0 0	7 1/2	..	8 0 0	0 5 0-Jan. 1861
18000	East Indian Coal, Calcutta [L.]	10 0 0	10	..	7 6 0	0 2 6-Feb. 1862
70000	English and Australian [S.E.]	5 0 0	3 1/2	..	18 5 0	1 0 0-June, 1861
25000	Gen. Mining Assoc., Nova Scotia [S.E.]	120 0 0	24	..	8 0 0	0 2 0-June, 1861
68000	Kapunda Mining Co., Australia [S.E.]	1 0 0	2 1/2	..	8 6 2	0 3 4-July, 1861
18000	Linares (id.), Pozo Ancho, Spain [S.E.]	3 0 0	8 1/2	..	0 19 0	0 1 0-Feb. 1862
10000	Lusitania (of Portugal) [S.E.]	2 0 0	2	..	0 9 6	0 1 0-Feb. 1862
103815	Mariquita and New Granada [S.E.]	1 0 0	1 1/2	1 1/2 1 3/4	0 9 6	0 1 6-July, 1859
190000	Port Phillip (gold), Clunes [S.E.]	1 0 0	1 1/2	1 1/2 1 3/4	0 5 6	0 1 6-Jan. 1862
11000	St. John's United (copper, lead), Newfoundland [S.E.]	15 0 0	64	63 1/2 64	48 5 0	3 0 0-June, 1861
20000	West Canada Mining Company [L.]	1 0 0	1 1/2	..	0 2 0	0 2 0-June, 1860

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Altan and Quenangan (tin, cop.) [L.]	4 10 0	3	..	4 5 0	0 15 0-Nov. 1853
10000	Barriar Land, Min. Ac. N. Ze. [L.]	4 10 0	3 1/2	..	15 per cent.	May, 1859
10000	Pontgibaud (all-lead), France [S.E.]	20 0 0	4	..	1 0 0	1 0 0-June, 1855
43174	Unit. Mexican (all-ld.), Mexico [S.E.]	28 5 0	8 1/2	7 1/2	1 16 6	0 4 0-Feb. 1853

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
20000	Australian (copper), South Australia [S.E.]	7 6 0	..	..	Oct. 1858
70000	Bon Accord, South Australia (copper) [L.] [S.E.]	0 17 6	1 1/2	..	Dec. 1860
25000	Capulco (silver), Mexico [L.]	0 10 0	..	..	Jan. 1862
6000	Central American (silver) [L.]	5 0 0	12	..	Feb. 1859
17000	Central Italian (copper), Portugal [L.]	0 0 0	10	..	Jan. 1859
60000	Clarendon Conols (copper), Jamaica [S.E.]	0 17 6	..	..	Jan. 1861
10000	Copio Smelting [L.], Chile	10 0 0	8 1/2	..	Fully paid.
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	1 1/2	..	Fully paid.
25000	East del Rey, Brazil [L.]	1 0 0	1 1/2	1 1/2	Sept. 1861
30000	East Kongberg Native Silver Mining Co. of Norway [L.]	1 0 0	..	..	April, 1861
15000	Elbe Colliery Company [L.]	0 5 0	..	..	Dec. 1861
30000	Ellerslie and Bardon, Jamaica	0 18 0	1 1/2	..	July, 1859
8000	English and Canadian Mining Company [L.]	5 0 0	..	..	Fully paid.